



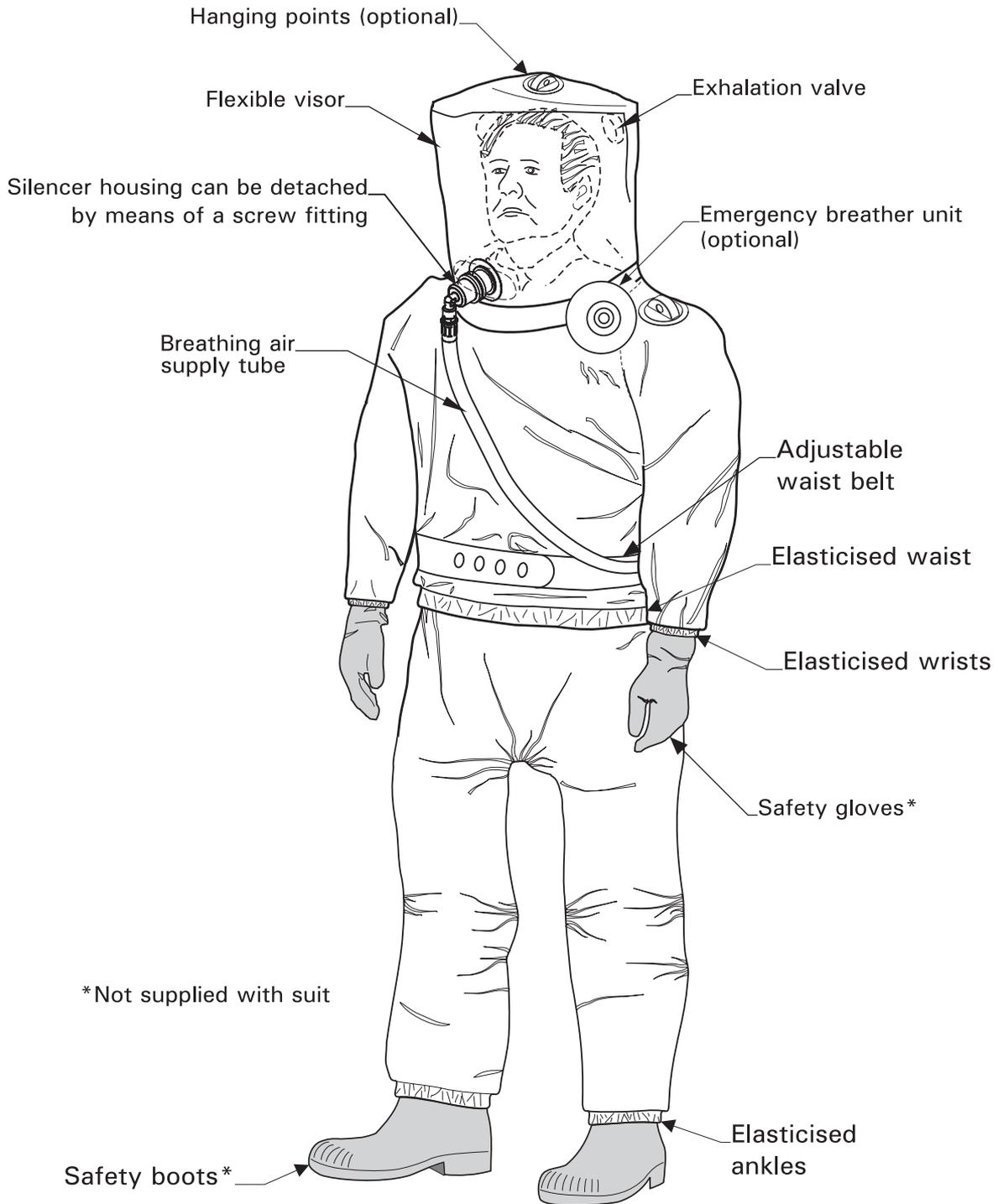
RESPIREX

**Instructions for use of
Two-Piece Sellprotex BT Suit**

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General Information



You have purchased a Respirex two-piece Sellprotex BT suit. These garments are for use within certain contaminated environments only. You must carefully read and follow these operating instructions closely.

The Sellprotex BT suit is designed for use with breathable air supplied from an external compressed air source. The quality of breathing air flowing into the garments must comply with EN12021:1999.

- Minimum flow rate 200 litres/min
- Maximum flow rate 300 litres/min

All respiratory protective clothing is CE marked to indicate compliance with European directives on personal protective equipment (PPE). The Sellprotex BT suit complies with the European standard EN1073-1:1998 (ventilated protective clothing against particulate radioactive contamination); this specifies the performance requirements for the garments and their materials of construction.

The suit is manufactured from translucent Velbex™ S5520 calendered PVC foil (see page 4 for physical properties).

Limitations & Warnings



- The Sellprotex BT suit top and trousers are not designed to be worn independently, to comply with the requirements of EN1073-1:1998 they must be worn in combination.
- At high work rates pressure within the suit may become negative at peak inhalation flow or during bending or squatting.
- Adequate protection may not be provided in atmospheres that are immediately dangerous to life or health (IDLH).
- The suit must **NOT** be used with oxygen only or oxygen enriched air.
- Ensure that the correct length and bore of air supply hose is used, a low airflow may cause a less efficient protection.
- The suit is manufactured from non-breathable materials. Persons who show any signs of excessive stress such as fever, nausea, dizziness, eye irritation, difficulty in breathing or becoming fatigued should leave the work area **immediately** and remove themselves from the garments.
- The suit must only be used in the hazardous area for which they are intended. Always follow the instructions carefully otherwise the protection offered may be drastically affected.
- Always use compatible PPE, e.g. gloves and safety boots advised by Respirex.

For any enquiries please contact the Respirex customer services department on Tel : +44 (0)1737 778600, Fax : +44 (0)1737 779441 or Email : info@respirex.co.uk

Pre-Checks

Under the Control of Substances Hazardous to Health (COSHH) regulations 1988 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 must be recorded and the following noted : date, name of examiner, condition of the equipment and details of any defect found. The inspection records will be kept by relevant Health & Safety departments for a period of at least five years.

1. Ensure the breathing air baffle is not damaged and is securely attached to the suit top.
2. The suit is free from contamination, both internally and externally.
3. The suit is free from tears and holes; pay particular attention to the seam areas, elasticated cuffs and ankles.
4. Vision from the suit visor is not obstructed by large scratches or heavy scuff marks.
5. Respirex recommend 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.
6. The expiry date printed on the emergency breather filter canister has not been exceeded (if fitted).

Inspection of the compressed air supply tube (medium pressure connecting hose), which supplies breathing quality air to the wearer, must 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. Lines are clean externally.
2. Lines are free from damage (holes, splits, etc).
3. Air line coupling connections are in good working order.

Submerge in water to locate any leaks if any sign of external damage is evident.

Report any defects to the supervisor and record them. The compressed air supply tube must **NOT** be used until the defect has been rectified.

Use of Emergency Breather (optional)

The suit can be fitted with an emergency breather unit designed for the purpose of evacuating the work area in the event of a complete loss of air supply.

The breather is used via the mouthpiece attached to the inside of the suit hood.

Respirex recommend that the breather filter canister is changed annually whether or not the unit has been used. Replacement filter canisters and mouthpieces can be ordered from Respirex.

Physical properties of Velbex™ S5520 calendered PVC foil

5520 grade is a cadmium and lead free mixed Di-isodecyl phthalate - phosphate plasticised grade, specifically formulated for use in the production of “posting out bags” used in the Nuclear industry. The product meets the acid resistance tests required in AESS 44 11175. Typical physical properties on the 300 mym - two ply product are as follows:

Property	Test Method	Performance level	EN1073-1:1998 Performance class
Abrasion resistance	EN 530:1994 Meth 2 (inc. pressure drop)	> 2000 cycles	6
Flex cracking resistance	ISO 7854:1995 Method B (inc. pressure drop)	> 100, 000 cycles	6
Trapezoidal tear resistance	ISO 9073-4:1989	MD 35.5N CD 45.1N	3
Puncture resistance	EN 863:1995	20 N	1
Resistance to flame	EN 13274-4:2001 Meth 3 (inc. pressure drop)	No part ignited or continued to burn on removal from flame	Pass
Seam strength	BS EN ISO 13935-2:1999	317.4 N	5
Resistance to Blocking	EN25978:1993	Blocking	1
Resistance to permeation by liquids	EN 374-3:1994**	308 mins	N/A

** Tested against 48% Hydrofluoric acid

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Donning Procedure

Before attempting to use a Sellprotex BT suit, full training should be given on wearing and decontamination by a competent person and the details of the training recorded. To avoid hazards such as stumbling or tripping, which may result in personal injury or damage to the garments, it is advisable to have an assistant to help the wearer during the donning procedure..

Follow these steps when donning the blouse and trousers:

1. Attach the elbow connection (silencer housing) on the belt assembly to the air inlet of the suit top. The inlet is situated at the front of the visor panel. **IMPORTANT:** Ensure that the rubber 'O' ring fitted to the elbow connection is in position and is undamaged, Fig.1.

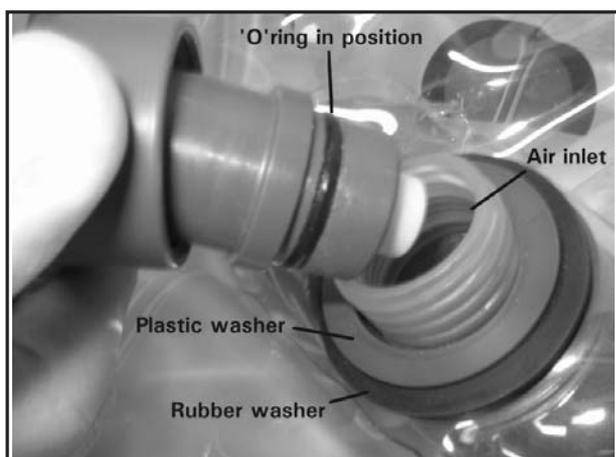


Fig.1

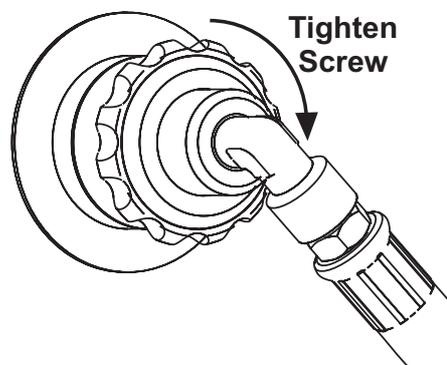


Fig.2

2. Secure the elbow connection in position by tightening the screw fitting onto the blouse inlet, Fig.2. **Note:** Suits with a removable air baffle should have one rubber washer and a plastic washer fitted to the inlet on the exterior of the hood, and one rubber washer fitted on the inside of the hood. The two vertical outlets on the air baffle should be facing upwards, Fig. 3.

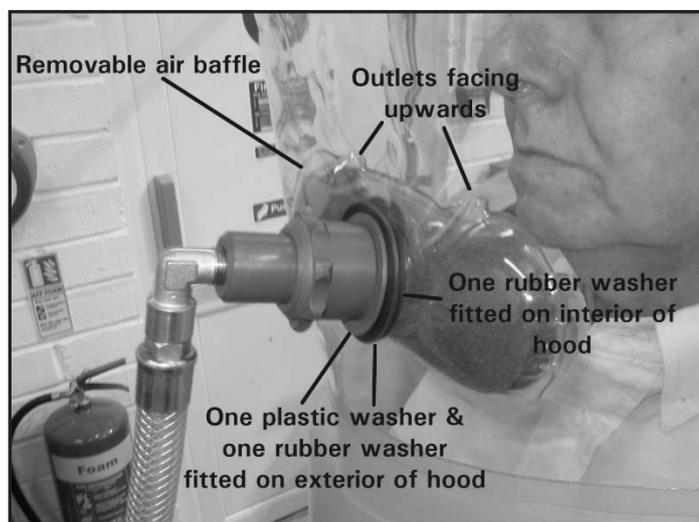


Fig.3

3. Connect the suit belt airline to the compressed air supply tube (medium pressure connecting hose) which supplies breathing quality air compliant with EN12021:1999 to the wearer.



Fig.4



Fig.5

4. Remove shoes (the trousers are not designed to have footwear worn internally).
 5. Don safety gloves.
- Stages 6,7 & 8 describe the procedure for trousers fitted with integral socks.
6. With the help of the dressing assistant step into the trousers and slide your feet into the integral socks.
 7. Fold the outer legs up approximately 20 - 23cms (8"-9"), Fig. 4.
 8. Step into protective safety boots and fold down the outer leg over the exterior of the boots, Fig.5.
 9. Alternatively, trousers without integral socks have elasticated ankles which should be worn over the exterior of safety boots, Fig.6.



Fig.6

10. Adjust the elasticated waist band or shoulder braces of the trousers until comfortable.
11. With the aid of the dressing assistant don the suit top.



Fig.7

12. The dressing assistant should ensure that the elasticated waist band of the suit top is positioned over the exterior of the trousers.
13. Fit the quick-release belt in position around the wearer's waist and secure in place with the press studs fastenings, Fig 7. **Note:** Ensure the last press stud is left free for quick-release procedure (this leaves a flap of belt for the wearer to grip). Ensure the wearer's body movement is not restricted, adjust the fitting of the belt accordingly.
14. The elasticated cuffs of the suit top should be worn over the exterior of the safety gloves, Fig.8. **Note:** If wearing more than one layer of gloves at a time only the first pair should be worn beneath the sleeve of the suit top. Any subsequent gloves should be worn over the sleeve. For information on use of suits fitted with an 'O' ring style cuff see page 9.



Fig.8

When fully dressed the two-piece Sellprotex BT suit should appear as shown in Figs.9 & 10.



Fig.9



Fig.10

Doffing Procedure

The person assisting in the doffing procedure should be wearing appropriate PPE selected by qualified safety personnel.

1. Unfasten the quick release belt.
2. With the help of the dressing assistant remove the suit top. The easiest method of removing the suit top is for the wearer to lean forwards with arms outstretched in front. The dressing assistant can then slide the suit top off the wearer by grasping the sleeves by the cuffs.
3. Disconnect the suit belt airline from the compressed air supply.
4. Where applicable, fold the outer legs on the trousers up approximately 20 - 23cms (8"-9") and step out of your safety boots. Alternatively, fold up the elasticated ankles and remove safety boots
5. Step out of the trousers.
6. Remove safety gloves.

After use decontaminate or dispose according to your company procedures.

'O' ring cuff (optional)

Suits fitted with an 'O' ring style cuff are supplied with a rigid plastic ring which fits inside the safety glove as shown in Fig 12. Before fitting, align the little finger of the safety glove with the seam on the underside of the sleeve. Locate one side of the 'O' ring into the groove on the plastic ring as shown in Fig 13. (it is easier to hold the plastic ring and 'O' ring in place by pushing down onto a flat surface).

Stretch the 'O' ring up and over until it is fully located into the groove around the circumference of the plastic ring, Fig 14. The safety glove should now be held firmly in position. Extra layers of gloves can be worn over the existing glove without removing the 'O' ring by simply stretching over the plastic ring to secure in place.



Fig.12



Fig.13



Fig.14

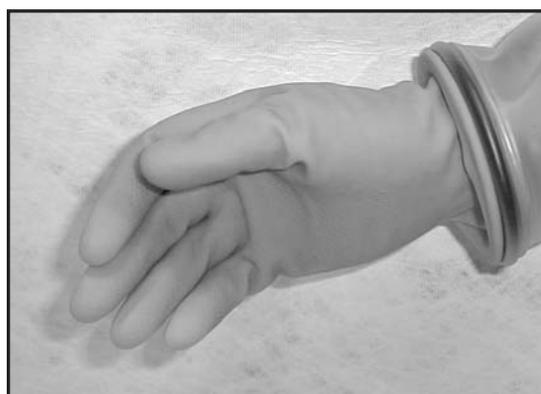


Fig.15

Use of Flowmeter (optional)

Respirex can supply a flowmeter which is used to ensure that between 200-300 litres/min of breathing air is supplied to the wearer. Prior to attaching the breathing air belt to the suit top, connect the elbow connection to the short length of flexible tubing on the flowmeter as shown in Figs.16 & 17. Simply adjust the air supply at source until the float rests between the relevant marks on the flowmeter.

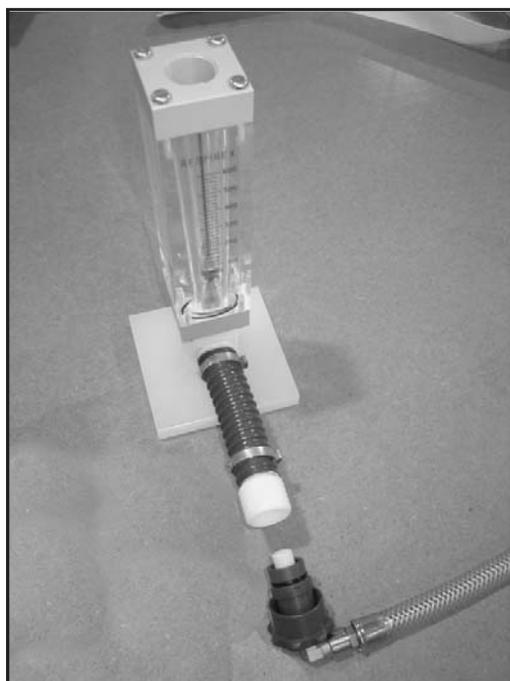


Fig.16



Fig.17

Inspection And Replacement Of Component Parts

A regular inspection and replacement program should be conducted by employees. The Sellprotex BT suit plus all component parts and assemblies, should be inspected for damage or excessive wear before and after each use to ensure proper functioning. Immediately remove garments from service and replace parts or assemblies that show any sign of failure or excessive wear that might reduce the degree of protection originally provided.

Use only Respirex components and replacement parts.

Recommended Cleaning Procedures

The Sellprotex BT suit should be cleaned and sanitized at least once per week, or more often if subjected to heavy use. Garments used by more than one person must be cleaned, inspected and sanitized after each use. If not cleaned contamination may cause illness or disease.

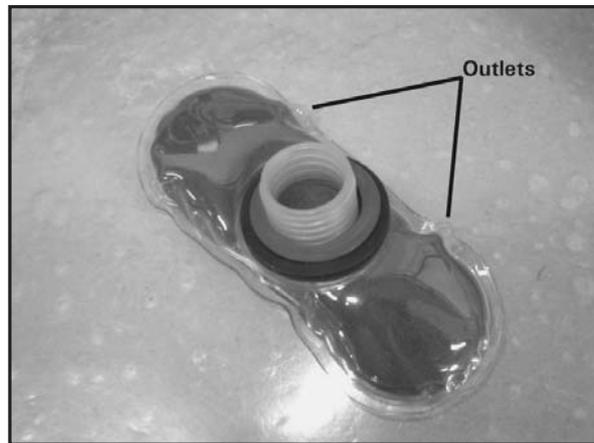


Fig.18

Before laundering a suit top, the air baffle should always be removed. Unfasten the screw fitting on the suit belt airline from the hood air inlet. Remove the plastic and rubber washer from the air inlet and remove the baffle from within the hood. When replacing the baffle always ensure the two outlets shown in Fig 18 are facing upwards, one rubber washer is fitted to the air inlet inside the hood, and one rubber washer and a plastic washer are fitted externally.

Light mechanical washing of the suit can be carried out using Citrikleen[®] with a water temperature not exceeding 30°C; the garments can be washed using this method a maximum of five times. Note: excessive or hard mechanical washing can reduce the life and protection of your garment.

Allow the garments to dry naturally or hang in a drying cabinet or warm room with a temperature that does not exceed 30°C/86°F.

Do not use solvents or strong cleaning and disinfecting agents as these could damage the visor and parts of the suit.

The air supply hose 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 hose.

Warnings

Light mechanical washing only 

Do not spin

Do not dry clean 

Do not bleach 

Do not iron 

Do not tumble dry 

Do not use solvent on PVC fabric

Do not use aggressive cleaning powders

Do not scrub the surface of the fabric

***IMPORTANT**: suits fitted with the following should **NOT** be machine washed :

- Emergency breather units
- Permanently attached air baffles

Machine washing garments fitted with these features could result in irreparable damage to the suit or washing machine.

Suits fitted with the above should be wiped with a sponge using warm water and Citikleen[®], rinsed and air-dried. The inner surfaces of the suit should be sanitized using Synodor[®].

Warnings

Do not machine wash 

Do not spin

Do not dry clean 

Do not bleach 

Do not iron 

Do not tumble dry 

Do not use solvent on PVC fabric

Do not use aggressive cleaning powders

Do not scrub the surface of the fabric

Storage

If the suit is to be stored in a box or container it should be folded so that the breathing air and cooling tubes are not twisted and the visor is not distorted.

ALWAYS STORE THE SUIT IN A DRY CONDITION.

Inside Label

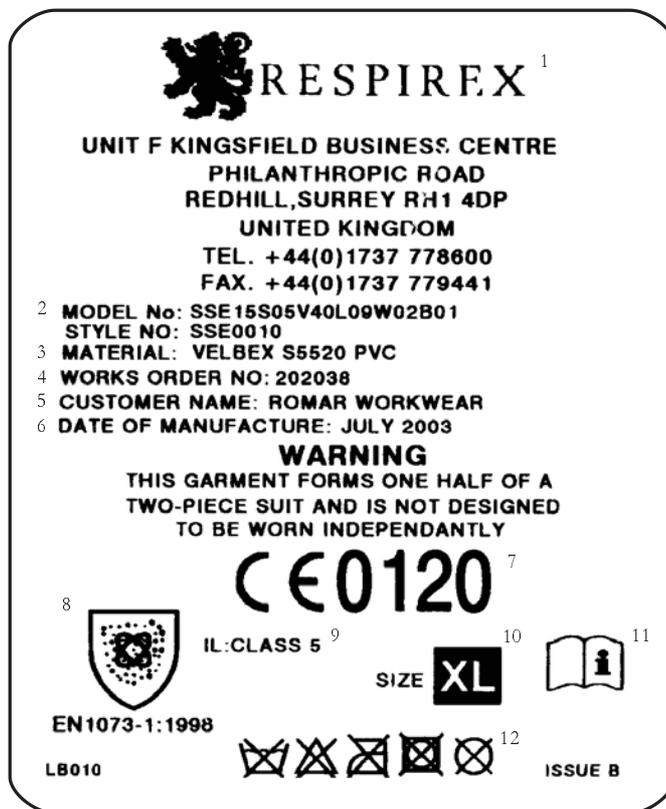
1. Manufacturer of garment;
Respirex International Ltd.
2. Manufacturer's Model No.
3. Material of Manufacture.
4. Manufacturer's Order No.
5. Customer Name.
6. Date of manufacture; Day/Month/Year.
7. CE Mark and notified Body code.
8. Pictogram defining protection types:
Particulate Radiation Pictogram
9. Inward leakage class
10. Garment Size

Size	Chest cms (ins)	Height m (ft ins)
S	88-96 (35"-38")	1.64-1.70 (5'4½"- 5'7")
M	96-104 (38"-41")	1.70-1.76 (5'7"- 5'9")
L	104-112 (41"-44")	1.76-1.82 (5'9" - 5'11½")
XL	112-124 (44"-49")	1.82-1.88 (5'11½"- 6'2")
XXL	124-136 (49"-53½")	1.88-1.94 (6'2"- 6'4½")

11. "Open Book Pictogram"; wearer must refer to the "Instructions for use" for further information.

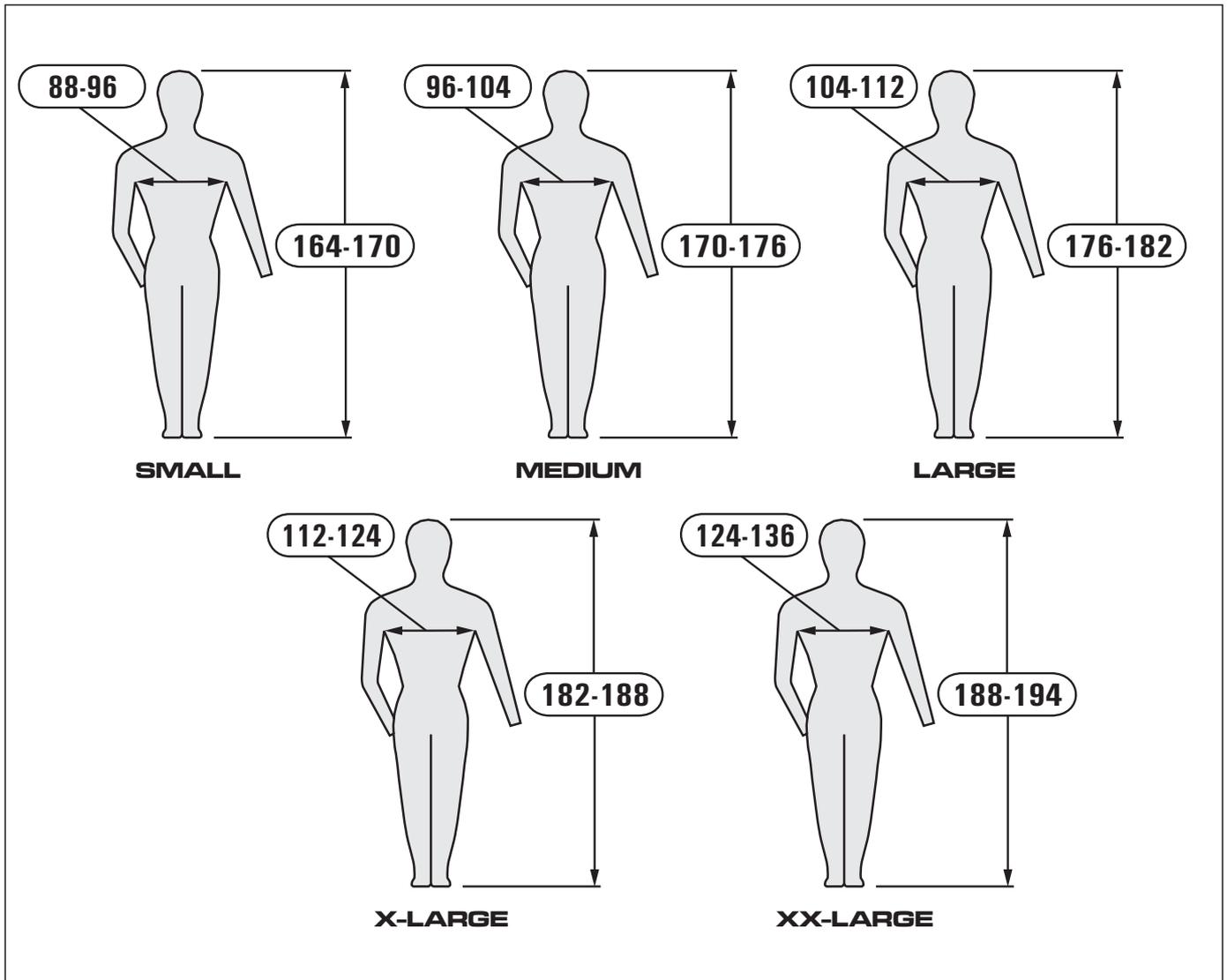
12. Five care pictograms indicating whether clothing is suitable for cleaning and reuse.

- Pictogram 1 Light Mechanical Washing or Do not wash (*shown*)
- 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 pictograms designate the range of height & chest sizes suitable for specific sizes of two-piece Sellprotex BT suit, check your body measurements and select the correct size of suit. Body measurements in cm (inch).



Size	Body Height	Chest Girth
S	164-170 (5'4½"-5'7")	88-96(35"-38")
M	170-176 (5'7"-5'9")	96-104(38"-41")
L	176-182 (5'9"-5'11½")	104-112(41"-44")
XL	182-188 (5'11½"-6'2")	112-124(44"-49")
XXL	188-194 (6'2"-6'4½")	124-136(49"-53½")

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