COMBINED PARTIAL PRESSURE/ANTI-G/AIR VENTILATED SUITS

Designed in conjunction with the Ministry of Technology and the Royal Air Force Institute of Aviation Medicine.

PURPOSE

Combined suits integrate what previously consisted of separate garments, thus providing lightweight suits which are both quick and easy to put on and comfortable to wear.

The Mk. 1 suit combines partial pressure and anti-g protection; whilst the Mk. 2 suit also provides an additional air ventilation system. A third alternative consists of partial pressure protection and an air ventilation system for high altitude, low speed flying.

The partial pressure bladder gives emergency pressure protection up to 100,000 ft (depending upon the oxygen regulator) and the anti-g bladder raises the wearers peripheral vision, grey out and black out threshold levels by up to 2g.

DESCRIPTION

Each suit is a one piece garment, covering the torso, arms and legs. The inflatable bladders are contained within restraining covers. The bladders are made from chloroprene coated nylon and the restaining cover from terylene.

The pressure protection bladder covers the torso, arms and legs, except for a portion of the small of the back. The bladder is inflated through a connector, which may be positioned in accordance with aircraft supplies, seat harness etc.

The anti-g bladder covers the abdomen, thighs, and calves and is inflated through a hose protruding from the front of the suit. A connector may be fitted to the hose if required.

The bladders are carefully tailored around the shoulders, elbows, thighs and knees so that movement is unhampered when the bladders are inflated.

The air ventilation system is supplied through a hose at the centre front. The air is conducted to various parts of the torso, the thighs and under the arms by P.V.C. tubes, which are attached to the inside of the partial pressure bladder. A tube is also provided for supplying an air ventilated helmet. The tubing system is cushioned for comfort by a layer of foam, through which the ventilation air permeates. The tubing system has been carefully designed to supply the correct flow rate to each part of the body, when the system is supplied with 13 cu.ft/min at an inlet pressure of 0.75 p.s.i.g.

The suit is adjusted by lacing cords running down the side of the body and legs. Dressing is facilitated by sliding fasteners running from the neck to the left hip, down the inside of each leg, and at each wrist. A sliding fastener is fitted for urinating.

WEIGHT

The Size 6, Mk.1 suit weighs 5 lb 1 oz (2.296kg)
The Size 8, Mk.2 suit weighs 7 lb (3.175kg)

SIZES

The suits are manufactured to fit wearers of the measurements listed below. The Mk. 1 suit was designed for wear over a body conditioning suit.

Size	Height	Chest
1	5 ft 5 in to 5 ft 8 in (165 cm to 173 cm)	33 in to 36 in (84 cm to 91 cm)
2	5 ft 5 in to 5 ft 8 in (165 cm to 173 cm)	36 in to 39 in (91 cm to 99 cm)
3	5 ft 5 in to 5 ft 8 in (165 cm to 173 cm)	39 in to 42 in (99 cm to 106 cm)
4	5 ft 8 in to 5 ft 11 in (173 cm to 180 cm)	33 in to 36 in (84 cm to 91 cm)
5	5 ft 8 in to 5 ft 11 in (173 cm to 180 cm)	36 in to 39 in (91 cm to 99 cm)
6	5 ft 8 in to 5 ft 11 in (173 cm to 180 cm)	39 in to 42 in (99 cm to 106 cm)
7	5 ft 11 in to 6 ft 2 in (180 cm to 188 cm)	36 in to 39 in (91 cm to 99 cm)
8	5 ft 11 in to 6 ft 2 in (180 cm to 188 cm)	39 in to 42 in (99 cm to 106 cm)
9	5 ft 11 in to 6 ft 2 in (180 cm to 188 cm)	42 in to 45 in (106 cm to 114 cm)

STORES REFERENCE NUMBERS

Combined Partial Pressure/Anti-g Suit Mk. 1—22c/2709 to 2717 (Sizes 1-9 respectively)

Combined Partial Pressure/Anti-g/Air Ventilated Suit Mk. 2—22c/1300204—212 (Sizes 1-9 respectively)
22c/1300213 (Special measure)

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