



E97/E97-F AIR CONDITIONER & NBC FILTRATION EQUIPMENT

The E97-F design incorporates air conditioning, NBC filtration unit, differential pressure sensor and over pressure relief flap in a fully integrated self contained package. The components (ACU & NBC) are designed to either mounted together NBC filter, slung under the Air Conditioner, or mounted side by side on the external wall of the shelter.

Particular attention has been paid to ease of installation and maintenance. All components are readily accessible with the unit in-situ by the simple removal of servicing panels.

To satisfy the demands of modern radar and computer controlled system, special consideration has been given to EMC and RFI suppression.

When RFI seals and honeycomb filters are used with the electrically bonded case, a high level of attenuation over a wide frequency spectrum is achieved. Capacity control is standard feature to eliminate the power surges associated with compressor starting.

Temperature control is selected through a programmable temperature controller. Once selected the operation of the unit if fully automatic with cooling available in ambient conditions from -46°C to $+55^{\circ}\text{C}$. Performance and fault monitoring, self test and remote alarm signals are provided on the unit control panel via illuminated push buttons and indicators.

When NBC filtered air is required, the unit will automatically seal off the fresh air intake, divert the fresh air through the NBC composite and then conditioned before being mixed with the air circulating within the conditioned space.

Assuming the installation is well sealed, the E97-F will create a safe working over pressure before the internal pressure flap operates to exhaust stale air from the conditioned space.

NBC COMPOSITE FILTER, No.1 MK's 2 & 4

The filter comprises of two concentric elements; an Ultra High Efficiency (UHE) particulate element; and a charcoal anti-vapour filter, both contained within a cylindrical housing. Although the airflow is radial through the beds, the inlet and outlet are axial.

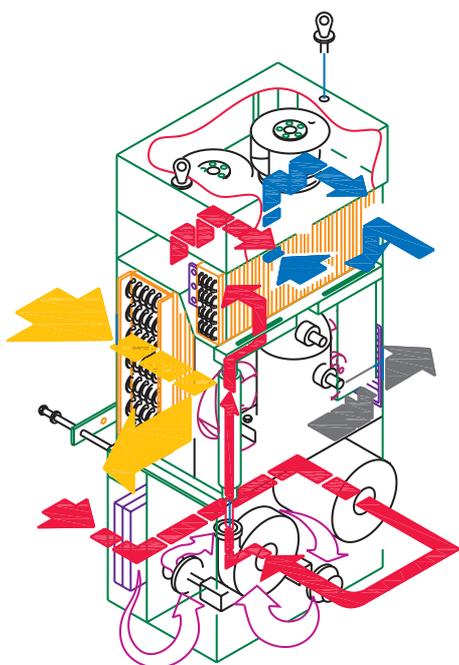
When used in a positive pressure plenum (ie. surrounded by air that has already been cleaned) all seals made during installation become fail-safe. All filters are tested during manufacture for particulate and gas penetration, thus in effect testing the integrity of sealing inside the filter as well as the filter elements.

Current production version is the Mk2 (FV2171110, NSN 4240-99-830-5026). A Mk4 version (FV2148120, NSN 4740-99-839-9842) is to be introduced shortly.

The Mk4 differs from the Mk2 in that it is made using an improved filling technique, has a more stringent vapour penetration test during manufacture and is supplied packaged for 10 years storage. In practice Mk2's manufactured are now made to Mk4 standards, except that they are built for relatively immediate use, they do not use the 10 year packaging system.



AIR FLOW PATHS



E97/E97-F AIR CONDITIONER - TECHNICAL DATA

	I495000
Height (excluding NBC)	1073 mm
Width	910 mm
Depth	565 mm
Mounting Method	Shelter Wall
Weight (excluding NBC)	197 kg
Supply Voltage	415V, 50Hz, 3ph
Maximum Power Cooling	5.0 kW
Maximum Power Heating	3.5 kW
Sensible Cooling Capacity	5.5 kW
Latent Cooling Capacity	1.5 kW
Heating Capacity	3.0 kW
Operational Conditions	-46°C to +55°C
Storage Conditions	-55°C to +70°C
RFI / EMC Protection	DEF Stan 59-41 (class B)
RFI Attenuation	Optional
Shock & Vibration	Mill Standard
Controls	Internal
Fresh Air Flow	100 m ³ /hr
Protection / Cutouts	HP / LP
Construction	Aluminium
Lifting Eyes	Yes
Refrigerant	R134a
Fresh Air NBC Interlock	Yes

FILTER SPECIFICATION DATA

Overall Size	315mm Long x 350mm Dia
Weight	16.5kg

PERFORMANCE

Rated Flow	170m ³ /hr
Particulate efficiency	99.997% (BS3928)
Vapor Life	Triptych AC/225 / Panel VIII D/25 I

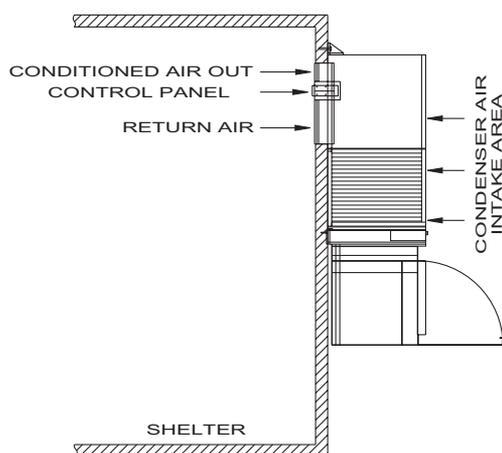
NBC FILTER UNIT - TECHNICAL DATA

	I496000
Height	505 mm
Width	910 mm
Depth	565 mm
Mounting Method	Shelter Wall
Weight Ex NBC Filter	59kg
Supply Voltage	230V, 50Hz, 1ph
Power	0.4 kW

CONTROL MOUNTED ON THE ACU CONTROL PANEL

NBC Operating Switch	Push Button
Over Pressure Gauge	Yes
Power ON Indicator	Yes
NBC Running Indicator	Yes
NBC / ACU Interlock	Yes
Audible Alarm	Yes

TYPICAL INSTALLATION



CONTROLS & AIR INLET / OUTLET



For more information on military air conditioning systems contact:

Ebac Industrial Products Ltd., St Helen Trading Estate,
Bishop Auckland, Co Durham, DL14 9AD, England

Tel: +44 (0) 1388 664400 Fax: +44 (0) 1388 662590
www.ebacuk.com