FT SERIES

Sterile Filling System – FT83XA

ULTRA-CLEAN AIR
CLASS 100 OPERATING ENVIRONMENT

The Armfield FT83XA is the most cost-effective solution for R&D departments to produce sterile packaged samples with an excellent shelf life.

As well as a working chamber with a controlled, clean environment, the unit includes the facilities to enable all the product paths to be sterilised and for the filling to be controlled in a simple manner.

UVC lamp option

The FT83XA can be specified with a UVC lamp to aid disinfection within the cabinet (FT83XA-UV)

Hood Control Panel

Features / benefits

- Extended shelf-life products achievable
- Can interface with existing Armfield UHT equipment giving a full sterile process in the laboratory
- N_2 headspace evacuation
- Filling environment to federal standard 209E class 100 (i.e. meets microbiological safety and pharmaceutical production/filling requirements)
- Foot pedal operation - Hands free control
- Open front for ease of use
- Large working area
- Wide range of containers catered for
- Low-oxygen filling facility as standard
- Can form part of a complete sterile UHT processing line
- Cleaning, sterilisation and filling modes
- Stainless steel construction
- UVC lamp option
- Volumetric Filling option

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Description

The FT83XA utilises a vertical Laminar air flow cabinet to maintain the air within the working section to better than ISO class 5 (Federal Standard 209e - Class 100). This high specification is achieved by passing the air through a high-efficiency HEPA filter, and recirculating most of this air to get an improved filtering effect. A digital air flow readout is incorporated and also serves as a warning when the HEPA filter needs replacing.
A prefilter extends the life of the HEPA filter. The FT83XA can be specified with a UVC lamp to aid disinfection within the cabinet (FT83XA-UV).

The product from the UHT system is either passed to the filling head or diverted to drain by means of a hygienic, pneumatically operated, three-way valve controlled by a foot pedal. When filling, the operator places a pre-sterilised container under the filling head and uses the foot pedal to fill to the required level.

When Cleaning-In-Place (CIP) or Sterilising-In-Place (SIP) a stainless steel pipe is positioned over the filling head to a return outlet in the working chamber. The cleaning fluid or sterilising hot water can be passed through the filling head, and also through the divert section. In these modes the software controls the three-way valve and hence the flow path. During SIP the software also monitors the temperature of the water to ensure that the specified sterilisation time and temperature have been met.

The flow path to drain incorporates a heat exchanger to reduce the sterilising water to a safe temperature and a back pressure valve to maintain pressure within the system to prevent boiling.

The containers used for filling need to be sterilised before use. Any convenient sterilisation method can be used, such as autoclaving, gamma radiation, or buying in sterilised containers from a laboratory equipment supplier. In use, the working chamber is cleaned manually.

The cabinet surfaces are sterilised using a suitable spray (e.g. ethanol). This method can also be used to sterilise the neck and seal of the containers where necessary.

Filled containers can be removed easily from the working chamber and new containers can be introduced without introducing product contamination. Trials have shown that using this system, new operators with a minimum of instruction can produce packaged aseptic samples similar to production aseptic filling systems.

A nitrogen nozzle is included, which can be directed over the container while filling, to give low oxygen content in the packaged product.

Technical specifications

Air quality inside chamber	Federal Standard 209e
	Class 100 ISO 14644 Class 5
HEPA filter efficiency	99.995% at 0.3 Micron EN1822-H14
Working chamber size	1220 x 580mm

Overall dimensions

Length	0.82m
Width	1.28m
Height	2.13m
Packed and crated shipping specifications	
Volume	4.5m³
Gross weight	400Kg

Requirements

Scale

- **Electricity supply:** single phase (see ordering codes)
- **Compressed air:** 5-7 bar
- **Cooling water supply:** 5 l/min at 1 bar, max temp 25°C
- **Nitrogen gas:** Only needed for low oxygen filling
- **UHT system** (see ordering codes)

Note: The FT83XA is specifically designed for use with the Armfield FT74XA and FT174XA UHT systems (similar system available for FT94X). ***Filling can be controlled from the UHT system touch panel.***

Ordering codes

- FT83XA-A 220-240V, 50Hz
- FT83XA-B 120V, 60Hz
- FT83XA-G 220-240V, 60Hz

In-cabinet UV Lamp option available

- Compatible with: FT174XA, FT74XA and FT94X
- FT83XA-55 required when ordering FT174XA-55 Direct Steam Injection Module