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ISO 9001:2008

2YR EXTENDED WARRANTY



The Armfield FT51 deaerator unit has been designed to enable small quantities of food and other liquid products to be processed conveniently in the laboratory. It can be used as a standalone batch deaerator or in-line with one of the Armfield continuous processing systems, such as the FT74XTS or the FT174X. The unit is designed to mirror the industrial processes of vacuum deaeration.

## FEATURES

- Batch processing
- Continuous in-line processing
- Nitrogen degassing facility
- Autofilling of vessel
- Clean In Place (CIP)
- Easy to use
- Touchscreen control
  - Full colour high resolution (800 x 480)
  - Displays process flow diagrams and actual status
- Automatic operation
- Full compatibility with existing Armfield UHT systems
- Controllable vacuum level
- Spray or disc deaeration (batch mode only)
- Integrated water feed control for ease of UHT start-up
- Vacuum levels down to -0.95 bar
- Deaeration capabilities of down to 0.5ppm dissolved O<sub>2</sub> (batch mode with N<sub>2</sub> degassing)

## BENEFITS

- Enhancement of product appearance (texture, colour and/or clarity)
- Preventing possible oxidation of colours, flavours, or nutritional compounds during heat treatment
- Improving shelf-life by reducing in-package oxidation risks
- Reducing potential usage of antioxidants in packaged products
- Reducing foaming during processing and/or filling
- Improving accuracy and reducing package volumes during filling
- Removing dissolved gases enabling increased carbonation levels in carbonated products

ISSUE 2



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## Develop with us

Armfield R&D products include:

- Hygienic connections as standard ✓
- 316 Stainless steel ✓
- Advanced CIP ✓
- CE certification ✓
- Extended warranty as standard ✓



**armfield**  
An ISO 9001 Company

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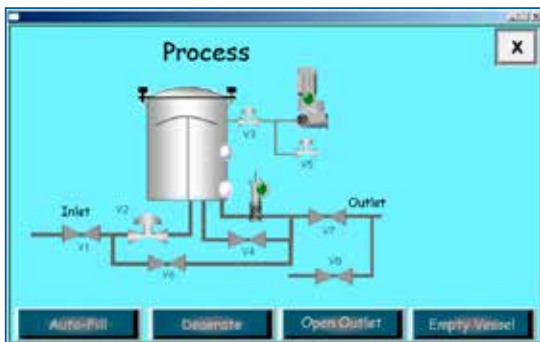


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The FT51 may be sited in most production environments and is well suited to operation in the laboratory. Typical product throughput is 20 l/hr.

The FT51 offers both batch, where spray or disc-based deaeration can be undertaken, or a continuous mode, where the system can be used in conjunction with other Armfield processing equipment.



### Description of operation

In batch mode the product is pumped from the vacuum vessel and then returned. As it re-enters the vessel it forms a thin film over a spreader disc, offering a large surface area to the vacuum, hence releasing dissolved gases. As the product is recirculated over time, more gas is released.

When coupled to an Armfield pasteurisation or UHT system, product can be drawn off at the rate required by the progressing cavity pump of the FT74XTS or FT174X. Product can either be drawn off until the vessel reaches its minimum limit, or the FT51 can automatically top up the vessel from an external container, using the vacuum to draw in the amount required to top up the vessel. The automatic level control maintains a max volume of approximately 10l in the vessel.

This vacuum filling mode can also be used to fill the vessel initially, prior to either batch or continuous processing.

N<sub>2</sub> gas can be introduced into the product in order to reach lower DO<sub>2</sub> levels (down to 0.5ppm).

Some products benefit from spray deaeration and in batch mode the spreader disc can be replaced by the supplied purpose designed spray ball. This uses multiple nozzles to produce a fine mist of product, enabling deaeration to be performed over the enhanced surface area of the small droplets.

The spray nozzle is also used in Clean-In-Place mode (CIP). This takes place under control of the Programmable Logic Controller (PLC). The valves are switched automatically to ensure all flow paths are thoroughly cleaned.

A feature of the Armfield unit is that the UHT system can be provided with a supply of water (or product) for start-up while still connected to the FT51. Switching between the water supply and the vessel contents is quickly and cleanly achieved by a single press of the touchscreen control. Similarly when the tank is emptied or when the operator wishes to finish the run, it can be easily switched back.

### Performance

Continuous throughput typically up to 20 l/hr

Batch volume 2-20l

Vessel volume 30l

Vacuum level to – 950 mbar (product dependent)

Deaeration performance values of 0.5ppm dissolved O<sub>2</sub> can be achieved by recirculating the product over a period of time in batch mode whilst using the N<sub>2</sub> gas facility.

Deaeration levels are also dependant upon volume and product type. Enquire for more details.

### Requirements

#### Electrical

See order codes

#### Order codes

FT51-A 220V-240V, 50Hz, 10A

FT51-G 220V, 60Hz, 10A

#### Overall dimensions

Height: 1.22m

Width: 0.50m

Depth: 0.86m

#### Shipping specification

Volume: 1.2m<sup>3</sup>

Gross weight: 230kg



The Armfield range includes HTST/UHT/aseptic systems, carbonator/filler/cappers, spray dryers/chillers, multifunction batch processors, ice-cream freezers, margarine crystallisers, extractors, edible oils processors and more. For further information about our products and services, or to book a trial at one of our trials facilities, please contact us.