FT SERIES

Pilot Deaerator – FT51

The Armfield FT51 Pilot Deaerator unit has been designed to remove dissolved gasses from small quantities of food and other liquid products 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 FT74XA or the FT174.

The unit is designed to mirror the industrial processes of vacuum deaeration.

High resolution touch screen

Clean In Place (CIP)

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Issue: 3 URL: http://www.armfield.co.uk/ft51

Description

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 FT74XA or FT174. 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_2 gas can be introduced into the product in order to reach lower dissolved oxygen 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.

Requirements

Scale

- **Electricity supply:** Single phase (see ordering codes)

Applications

- Baby foods
- Beverages
- Cream
- Desserts and puddings
- Fruit and vegetable purees
- Fruit juices and cordials
- Gelatine products
- Gravies
- Health and nutritional products
- Milk
- Pharmaceuticals
- Sauces and soups
- Yoghurts

Overall dimensions

Length	1.10m
Width	0.70m
Height	1.45m
Packed and crated shipping specifications	
Volume	1.2m^3
Gross Weight	230Kg

Features / 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
- 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_2 (batch mode with N_2 degassing)

Performance

Continuous throughput typically up to 20 l/h

Batch volume 2-20l

Vessel volume 30l

Vacuum level to – 950 mbar (product dependent)

Deaeration performance values of 0.5ppm dissolved O_2 can be achieved by recirculating the product over a period of time in batch mode whilst using the N_2 gas facility, (product dependent).

Deaeration levels are also dependant upon volume and product type.

Enquire for more details.

Options

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

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.

Ordering codes

- FT51-A: 220V-240V, 50Hz, 10A
- FT51-G: 110V/60Hz/10A