

## Homogenisation (NIRO) Subsystem – FT91

**FT  
SERIES**

The FT91 is a complete in-line homogenisation subsystem.

For use with Armfield miniature-scale food processing equipment. The unit is based on a **Niro Twin Panda** and has unit has been specifically optimised for laboratory and pilot scale applications.

The units include controls, comprehensive instrumentation, valves, pipework, pulsation dampers, datalogging and all facilities required for operation and process integration with other Armfield equipment.

Also available as stand-alone system.



Twist controller, dtalogging blah blah



Milky milky nom nom!

### Features / benefits

- ▶ In-line homogenisation for trial quantities and miniature-scale processing
- ▶ Simple integration with existing Armfield equipment
- ▶ Can be used as stand alone
- ▶ Uses scale-down valve technology which ensures the results are representative of production-scale processing
- ▶ Configurable for upstream or downstream homogenisation
- ▶ Variable throughput
- ▶ Two stage homogenisation with adjustable pressure
- ▶ Twin pistons
- ▶ Pulsation dampers included
- ▶ Comprehensive instrumentation includes product temperature, product line pressure, homogenisation pressure and pump speed
- ▶ Datalogging software seamlessly integrates the data with the data from the FT74 and similar heat treatment unit
- ▶ Adjustable divert facility for easy integration into continuous flow processes
- ▶ Complete with interconnection hoses
- ▶ Can be sterilised and used in an Aseptic system

## Description

The unit has been specifically developed to provide a simple and complete solution for in-line homogenisation in conjunction with the Armfield FT74 range of miniature-scale processing equipment. They contain the homogeniser, pulsation dampers, a stainless steel control cabinet plus the required control valves, pipework and instrumentation all mounted within a stainless steel frame.

Hand wheel adjustment is provided for both stages of homogenisation pressure. The homogenisation pump speed is electronically controlled from the console, and a manually adjustable divert valve is used to compensate for any inequalities between the flow rate from the FT74XA and the homogeniser, or any fluctuations in these flows.

The homogenising valves, seats and balls of the pump valves, are manufactured from stellite, a hard wearing ceramic material.

The pulsation dampers are located upstream and downstream of the homogeniser to provide smooth flow on both sides. The pulsation dampers are non-pressurised and can be easily dismantled for cleaning.

The stainless steel control console includes displays for the homogenisation pressure for product temperature and for product process pressure. The outputs from all the sensors, together with the pump speed are also made available on an integral USB interface. The software provided with the FT91 enables this data to be fully integrated with that from an FT74 datalogger, with a single display screen, single data table, and options to graphically display any or all of the data from either system.

The FT91 is supplied with all necessary equipment, interconnecting hoses, homogeniser tools etc. for trouble free integration and operation.

## Technical specifications

| Unit Specifications                     | FT91                |
|---|---------------------|
| Homogeniser                             | Niro Twin Panda 600 |
| Throughput: Adjustable                  | 10-30 l/h           |
| Max 1st stage homogenisation pressures  | 600 Bar             |
| Homogenisation temperature              | 90°C max            |
| Max sterilisation temperature (30 mins) | 140°C               |
| Pump power                              | 1.5 kW              |
| No. of pistons                          | 2 off               |

## Overall dimensions

| Unit                                      | FT91               |
|---|--------------------|
| Length                                    | 1.1 m              |
| Width                                     | 0.90 m             |
| Height                                    | 1.05 m             |
| Packed and crated shipping specifications |                    |
| Volume                                    | 1.8 m <sup>3</sup> |
| Gross weight                              | 240 kg             |

## Knowledge base

- > 31 years expertise in research & development technology
- > 53 years providing engaging engineering teaching equipment

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## Requirements

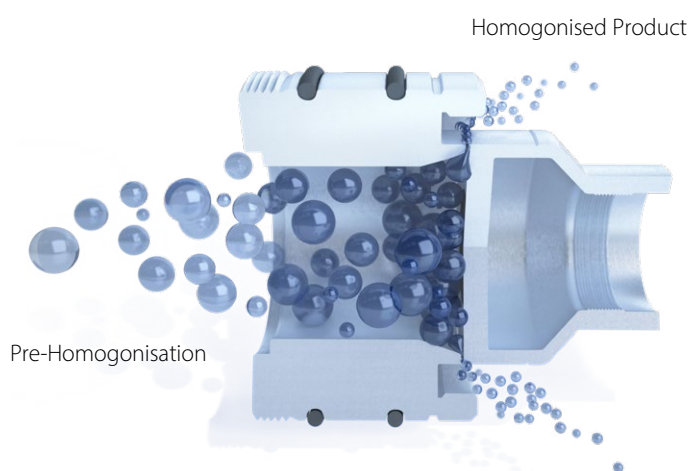
## Scale



- ▶ Electrical Supply - (See ordering codes)
- ▶ Water 1 L/min for lubrication (not RO)

## Requirements - Accessories

For use with **FT74 Plate Heat Exchanger**, a homogeniser interconnection plate must be used. **FT74XA-31** is used for upstream homogenisation (homogenisation during heating) and **FT74XA-32** is used for downstream homogenisation (homogenisation during cooling)



The FT91 Homogenisation (NIRO) Subsystem is designed for straightforward integration into pilot-scale process systems, enabling modular expansion and the development of a versatile, pilot-scale R&D facility.

## Ordering codes

| Unit     | Voltage   | Phase | Frequency | Power |
|----------|-----------|-------|-----------|-------|
| ▶ FT91-A | 220-240 V | 1 ph  | 50 Hz     | 2 kW  |
| ▶ FT91-G | 230 V     | 1 ph  | 60 Hz     | 2 kW  |

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## Aftercare

Installation  
Commissioning  
Training  
Service and maintenance  
Support: [armfieldassist.com](http://armfieldassist.com)