

Homogenisation (NIRO) Subsystem – FT90 – FT91

**FT
SERIES**

The FT90 and FT91 are complete in-line homogenisation subsystems for use with Armfield miniature-scale food processing equipment. The FT90 is based on an APV 1000 homogeniser and the FT91 is based on a Niro Twin Panda. Both homogenisers have 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 systems.



FT90 Homogenisation Subsystem



FT91 Homogenisation Subsystem

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 (FT91) or single piston (FT90)
- ▶ 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

These units have 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 FT90 and 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 FT90 and FT91 are supplied with all necessary equipment, interconnecting hoses, homogeniser tools etc. for trouble free integration and operation.

Technical specifications

Unit Specifications	FT90	FT91
Homogeniser	APV 1000	Niro Twin Panda 600
Throughput: Adjustable	8-22 l/h	10-30 l/h
Max 1st stage homogenisation pressures	1000 Bar	600 Bar
Homogenisation temperature	105°C max	90°C max
Max sterilisation temperature (30 mins)	130°C	140°C
Pump power	3 kW	1.5 kW
No. of pistons	1 off	2 off

Overall dimensions

	Unit	FT90	FT91
Length		1.0 m	1.1 m
Width		0.95 m	0.90 m
Height		1.15 m	1.05 m
Packed and crated shipping specifications			
Volume		1.8 m ³	1.8 m ³
Gross weight		238 kg	240 kg

Knowledge base

- > 30 years expertise in research & development technology
- > 52 years providing engaging engineering teaching equipment

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Requirements

Scale

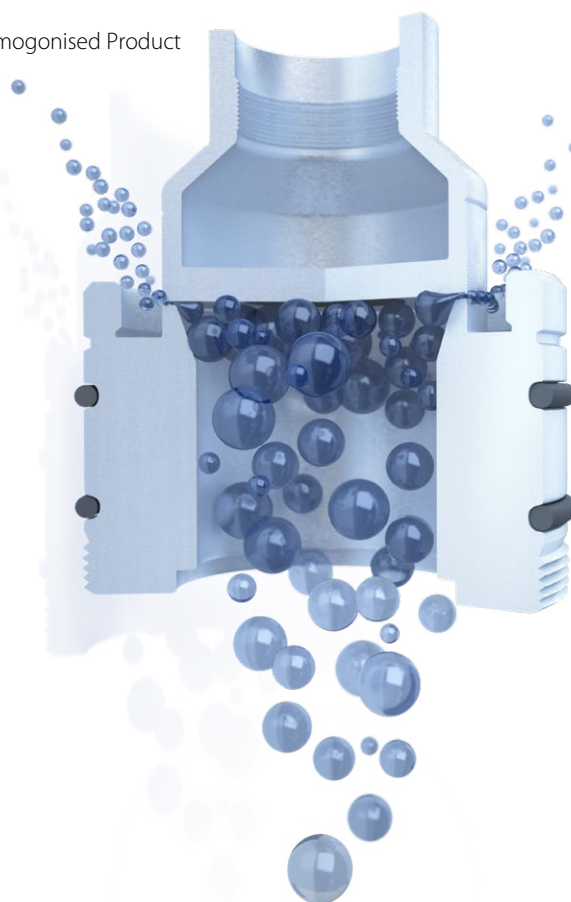


- ▶ Electrical Supply - (See ordering codes)
- ▶ Water 1 L/min for lubrication (not RO)

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)

Homogenised Product



Pre-Homogenisation

Ordering codes

Unit	Voltage	Phase	Frequency	Power
▶ FT90-E	380-415 V	3 ph	50 Hz	3.5 kW
▶ FT90-F	220 V	3 ph	60 Hz	3.5 kW
▶ 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

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