

**FT
SERIES**

**Homogenisation SubSystems – FT90
– FT91**

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.

They can also be operated as stand alone units.



FT90 Homogenisation SubSystem



FT91 Homogenisation SubSystem

Features / benefits

- ▶ In-line homogenisation for trial quantities and miniature-scale processing
- ▶ Simple integration with existing Armfield plant
- ▶ Can be used as stand alone
- ▶ Uses scale-down valve technology which ensures the results are representative of production-scale processing
- ▶ Complete Homogenisation Subsystems
- ▶ Configurable for upstream or downstream homogenisation
- ▶ Variable throughput
- ▶ Two stage homogenisation with adjustable pressure (1000bar)
- ▶ Twin pistons (FT91) or single piston (FT90)
- ▶ Pulsation dampers included
- ▶ Comprehensive instrumentation includes product temperature, product line pressure, homogenisation pressure and pump speed
- ▶ All these parameters are displayed on the control console and available for datalogging via the integral USB datalogger
- ▶ Datalogging software seamlessly integrates the data with the data from the FT74XA 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 FT74X 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.

Requirements

Scale



- ▶ Electrical supply: (see Ordering Codes)
- ▶ Water or steam: for lubrication (FT90 only)
- ▶ Steam (sterile operation only)

Requirements - Accessories

A PC running Windows XP or later with a USB interface is required for datalogging.

(If being used with FT74-DTA-ALITE or equivalent, two USBs are required).

For use with FT74-30MkIII, a homogeniser interconnection plate must be used. FT74-31 is used for upstream homogenisation (homogenisation during heating) and FT74-32 is used for downstream homogenisation (homogenisation during cooling)

Technical specifications

Unit Specifications	FT90	FT91
Homogeniser	APV 1000	Niro Twin Panda 600
Throughput: Adjustable	8-22 l/hr	10-30 l/hr
Max 1st stage homogenisation pressures	1000 Bar	600Bar
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

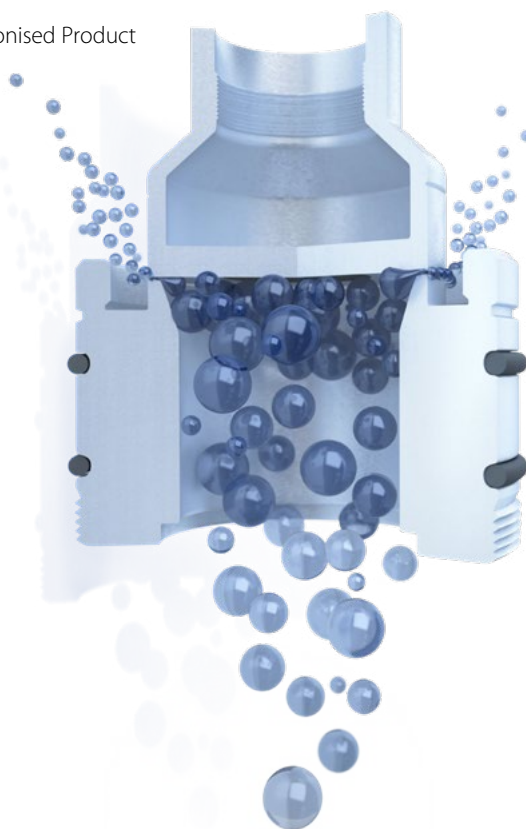
Overall dimensions

	Unit	FT90	FT91
Length		1.0m	1.1m
Width		0.95	0.90m
Height		1.15m	1.05m

Packed and crated shipping specifications

Volume	1.8m ³	1.8m ³
Gross weight	238Kg	240Kg

Homogenised Product



Pre-Homogenisation

Ordering codes

- ▶ FT90-E 380-415V/3ph/50Hz 3.5 kW
- ▶ FT90-F 220V/3ph/60Hz 3.5 kW
- ▶ FT91-A 220-240V/1ph/50Hz 2 kW
- ▶ FT91-G 230V/1ph/60Hz 2 kW

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

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An ISO 9001:2015 Company



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