

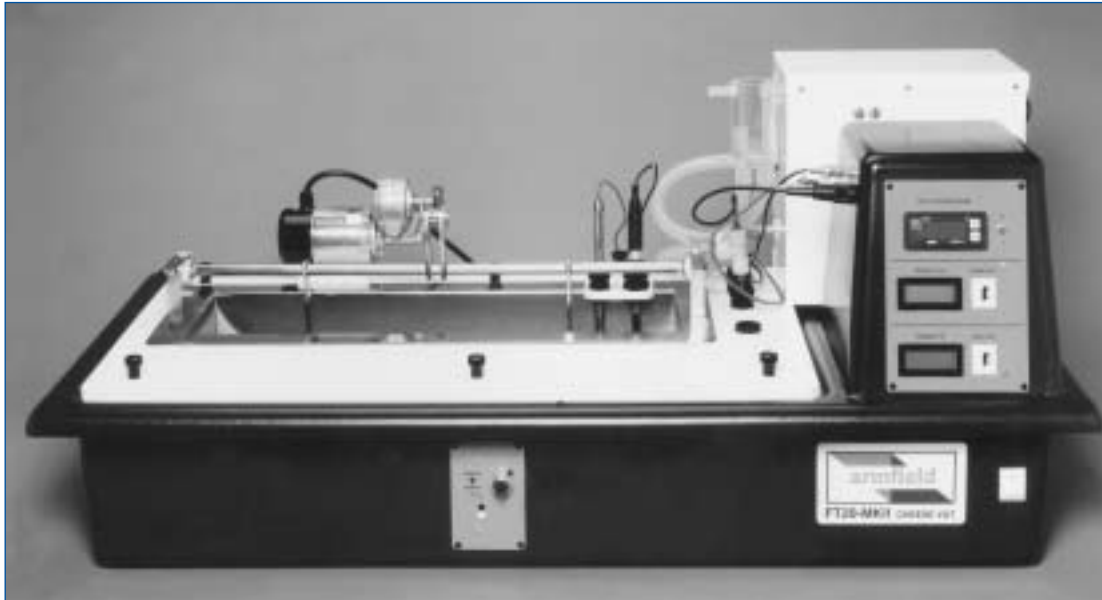


armfield

CHEESE VAT

FT20MkII

issue 2



An effective means of demonstrating the cheese making process in a simple, practical and student friendly configuration. The FT20MkII operation is compared with industrial scale manufacturing, giving the student 'hands-on' experience of process monitoring and control. The effects of heat on micro-organisms and variations in recipes on the taste and texture of the finished product may be evaluated.

An informative wallchart is supplied free with each FT20MkII Cheese Vat purchased. It offers the student diagrams of the cheese making process and details the steps involved in cheese manufacturing.

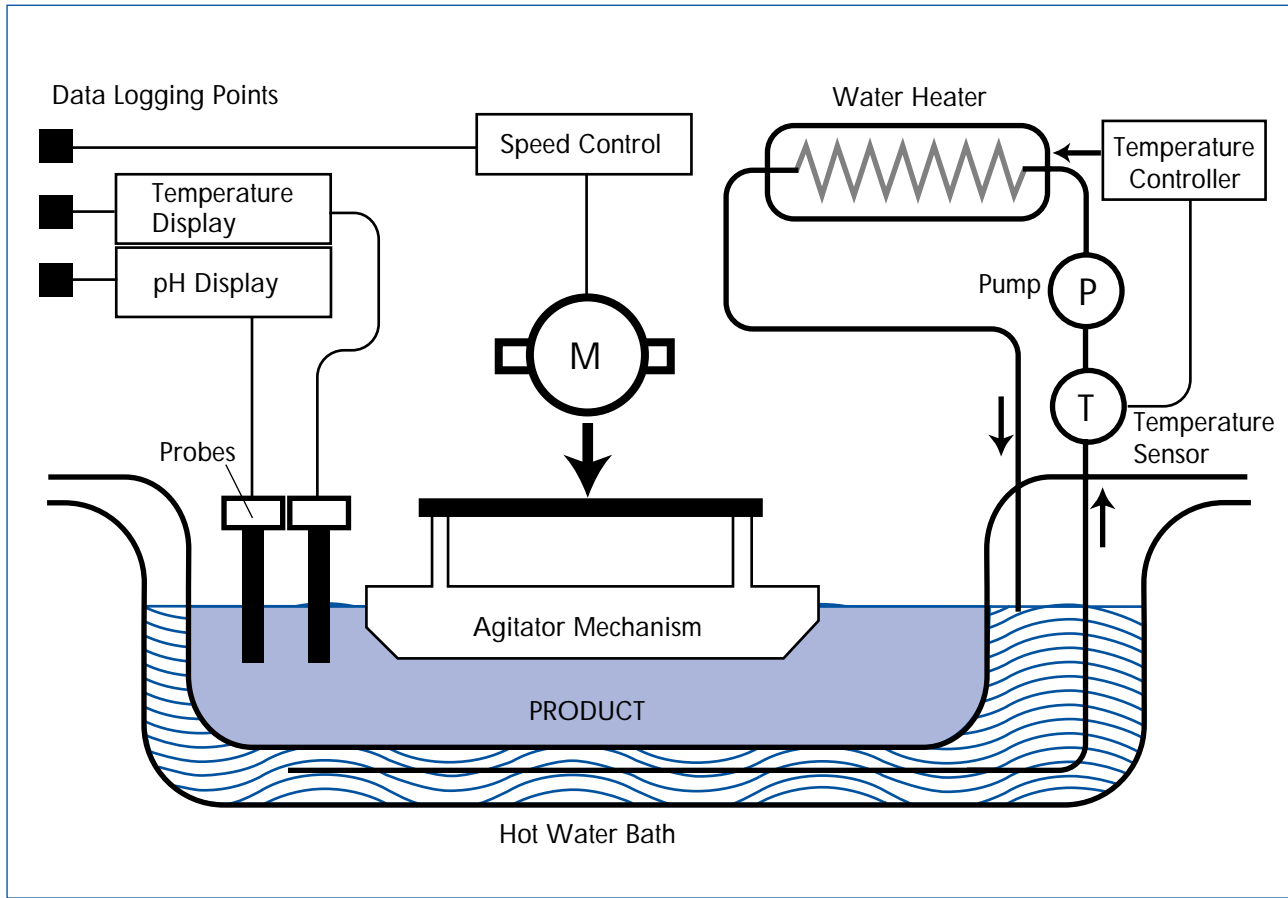
DEMONSTRATION CAPABILITIES

- *Batch production process*
- *Manufacturing of hard cheese*
- *Manufacturing of soft cheese*
- *Manufacturing of yogurt*
- *pH monitoring*
- *Systems and control*
- *Industrial temperature control system*
- *Quality assurance/Quality control (QA/QC)*
- *Links between technology and science*
- *Effect of heat on micro-organisms*
- *Taste and texture comparisons*
- *Recipe development*

Food Process Engineering and Technology

FT





FT20MkII Schematic diagram

The Armfield Cheese Vat is a versatile piece of equipment designed specifically for the schools food technology area. It demonstrates a batch production process which can be related to the factory process at all stages. It is designed to be simple to understand and use.

As the vat can be used to make a variety of real cheeses and yogurts, it is useful for tasks such as taste and texture comparisons of different recipes and manufacturing methods. It is an ideal unit for project work and investigations, allowing students to manufacture their own products and designs using industry standard manufacturing methods.

The equipment illustrates a number of major messages associated with food technology, for example:-

Food is a Material Manufactured in a Factory, not a Kitchen.

The Systems and Control aspects of Food Technology Courses are well illustrated by the use of an industrial temperature controller to maintain the water bath at a constant temperature. This control system uses a temperature sensor and a 'PID' feedback system. It can therefore demonstrate simple control techniques and be used to investigate sophisticated control techniques for further study.

DATA LOGGING

A data logging accessory is available as an optional extra, this allows the process temperature, agitator rate and pH of the product to be logged on a PC.

Windows™ based software is included to display tables and graphs of the logged data and to allow the data to be exported to a spreadsheet or stored on disk.

DESCRIPTION

The FT20 MkII comprises a hygienic stainless steel product vat located in a temperature controlled hot water bath. Temperature and pH probes and displays are provided to monitor the product throughout the process.

An agitator mechanism is used to produce the curd making action, full control over the agitation rate being provided.

The stainless steel mechanism is quickly and easily detached for cleaning.

The product vat and water bath are self draining with a hygienic pinch valve being used to drain the whey from the vat.

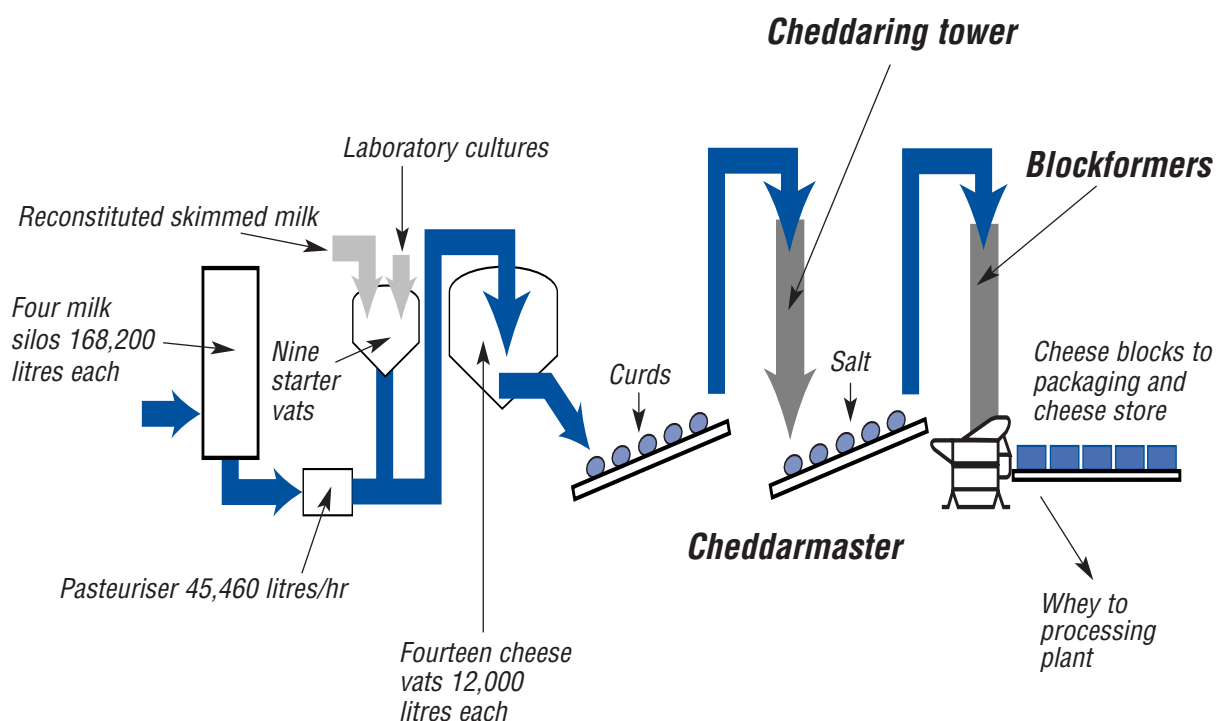
All accessories required to make a variety of cheeses are provided.

Attention has been paid to making the equipment easy to use and to providing operational information in a lively, informative and easy to remember style.

Also available for schools is a comprehensive teaching manual outlining a number of resource tasks and activities optimised for secondary school students.

CHEESE PRODUCTION

A typical factory production line for making a Cheddar type cheese



The steps involved are identical to those used to make cheese using the FT20MkII but the difference in quantities is enormous. Each cheese vat has a capacity of 12,000 litres compared with the FT20MkII vat of just 6.5 litres. A production line of 14 vats could make over 25,000 times more cheese than the Armfield FT20MkII.

ORDERING SPECIFICATION

- *A hygienic stainless steel cheese vat of 6.5 litres capacity with a variable sweep rate agitator paddle, mounted within a high impact plastic plinth.*
- *The vat is heated by a temperature controlled water bath and recirculating hot water system.*
- *Instrumentation includes vat temperature probe and display, vat pH probe and display and water bath temperature control and display.*
- *There is capability to log data to a PC via the optional data logger.*
- *Both the water bath and vat are provided with drain down facilities and all parts in contact with the product are designed to be easily dismantled for cleaning.*
- *The cheese vat is supplied with a comprehensive range of accessories required to make a variety of cheeses.*



TECHNICAL SPECIFICATION

| | |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Vat capacity:</i> | <i>6.5 litres (makes approximately 650g hard cheese)</i> |
| <i>Water heater:</i> | <i>2kW</i> |
| <i>Temperature control:</i> | <i>Adjustable to 50°C</i> |
| <i>Agitator rate:</i> | <i>Adjustable</i> |
| <i>Vat contents sensors:</i> | <i>Temperature, pH</i> |
| <i>Cheese making accessories:</i> | <i>A stainless steel strainer to separate curds and whey A stainless steel cheese mould Two cheese knives A cheese press</i> |
| <i>Wall chart:</i> | <i>'The Cheese Making Process'</i> |

OPTIONAL ACCESSORIES

FT20MkII-90IFD-USB

Data Logging Accessory: Comprises interface device, software and leads.

Requires a customer supplied PC with USB interface, running Windows 98, 2000, ME or XP.

ELECTRICAL SUPPLY

| | |
|--------------------|------------------------------|
| <i>FT20MkII-A:</i> | <i>220/240V/1ph/50Hz@10A</i> |
| <i>FT20MkII-B:</i> | <i>120V/1ph/60Hz@20A</i> |
| <i>FT20MkII-G:</i> | <i>220-240V/1ph/60Hz@10A</i> |

OVERALL DIMENSIONS

| | |
|----------------|--------------|
| <i>Height:</i> | <i>0.55m</i> |
| <i>Width:</i> | <i>1.0m</i> |
| <i>Depth:</i> | <i>0.5m</i> |

SHIPPING SPECIFICATION

| | |
|----------------------|-------------------------|
| <i>Volume:</i> | <i>0.5m³</i> |
| <i>Gross weight:</i> | <i>40Kg</i> |

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