



Tetra FlexDos™

Aseptic in-line dosing



Application

Tetra FlexDos provides flexible and safe in-line ingredient delivery. Examples of ingredients that are suitable for aseptic dosing by the Tetra FlexDos system include: enzymes, aromas, colours, lipids, probiotic bacteria and other nutritionals. The system ensures the survival and stability of heat sensitive function that the characteristics of the ingredients are not changed. It fits with any filling machine with a capacity between 1 000 - 20 000 l/hr with a continuous flow. The Tetra FlexDos is fully automated and installed between processing and the filling machines. It can serve one or several filling machines.

Working principle

The ingredient is injected into the base product with high precision after the final heat treatment, just before the filling into retail container. The pump section has two identical stations that enable either single or double dosing depending on capacity and

number of ingredients injected. Each station can dose 0.5 l/h to 15 l/h of ingredient. A flow meter and a bar code reader ensure the correct dosage level and product.

The dosing is made through a sterile hose connected to the bag and a sterile needle injects the ingredient into the base product. Steam and sterile condensate barriers maintain the aseptic condition during the process. The liquid ingredient is pre-packed through an aseptic process and kept in 5 or 10 litre bags, which are ready to use. The Tetra FlexDos is equipped with an advanced information system that provides total traceability. The unit does not have a CIP and sterilisation system by itself but follows the process cleaning and sterilisation process. The Tetra FlexDos unit is controlled via its operator panel.

Versions

- FDU 2000 - For UHT applications
- FDU 2000c - For Chilled applications

Basic Unit

Main components

- Injection chamber with steam and sterile condensate barrier (aseptic version)
- Injection chamber (chilled version)
- Two dosing stations with peristaltic hose pumps and weighing system
- Flow transmitter
- Valves, pipe works, steam traps, filters, temperature transmitter, pressure gauge, internal wiring etc.
- Control cabinet with Beckhoff PLC system and automation
- Human Machine Interface (HMI), type industrial PC mounted in control panel with 12" touch screen in control panel door. Including recipe management system and production record system

Options

- Product cabinet cooler

Processing parameters

Base product

Type	Liquid
Flow (l/h)	1 000 - 20 000
Max pressure (kPa)(g)	170
Max pressure variations (kPa)(g)	±20 (in order to reach dosing accuracy)

Flowchart (White = Base product, Blue = Ingredient)

1. Flow meter - measures base product flow
2. Ingredient - in aseptic bag
3. Hose&Pump - ingredient is transferred from the bag via a hose and peristaltic pump
4. Injection point - where the ingredient is dosed into the product
5. Consumption measurement - the consumption of the ingredient is measured by a load cell
6. Control panel - recipe control, accurate dosing and traceability

Ingredient

Type	Liquid
Package size	5 or 10 litre bags
Dosing range (l/h)	0,5 - 15 continuous 1,0 - 30 intermittent

Technical data

Consumption data (approx)

Electrical power (kW)	1,0 (230V, 50 Hz)
Steam (only for aseptic version) (kg/h)	3
Compressed air (NI/h)	200
Cooling water (l/h)	400

Dimensions*

Height (mm)	2 270
Length (mm)	1 300
Width (mm)	700

**)Options not included*

Shipping data* (approx)

Net weight (kg)	350
Gross weight (kg)	550
Volume (m ³)	3,3

**)Options not included*

