

Better filling by design

Innovation with your business needs in mind

- **Modular**
- **Efficient**
- **Hygienic**
- **Scalable**



THE SYSTEM F-1800 FILLING MACHINE

F-1800 AT A GLANCE



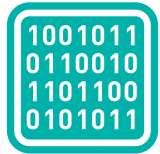
Machine frame:

Designed with hygiene in mind, and able to house any standard configuration of **System F-1800's** wide range of options



Product dosing:

Able to accept a wide variety of dosing technologies, with standard options being flowmeters or servo-driven volumetric pumps



Control system:

Omron PLC control with full colour touch-screen HMI is recommended as standard, but other approved systems can be specified



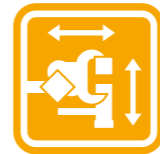
Guarding:

Designed to offer an unobstructed view and convenient, unhindered access for operators



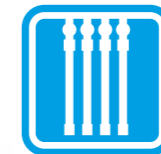
Product supply:

Easily interchangeable manifolds and tanks can be specified.



Nozzle carrier:

Servo-driven with vertical and horizontal axes for RWF, twin-track filling and below-conveyor priming and purging



Filling nozzles:

Innovative trigger release, for efficient pitch adjustment, and quick strip, facilitating superior hygiene levels



Neck location:

Conveyor mounted, fully automated, and available with cone and V-location options



Transport caddy

For transporting volumetric pump blocks and other wetted components for off-site cleaning



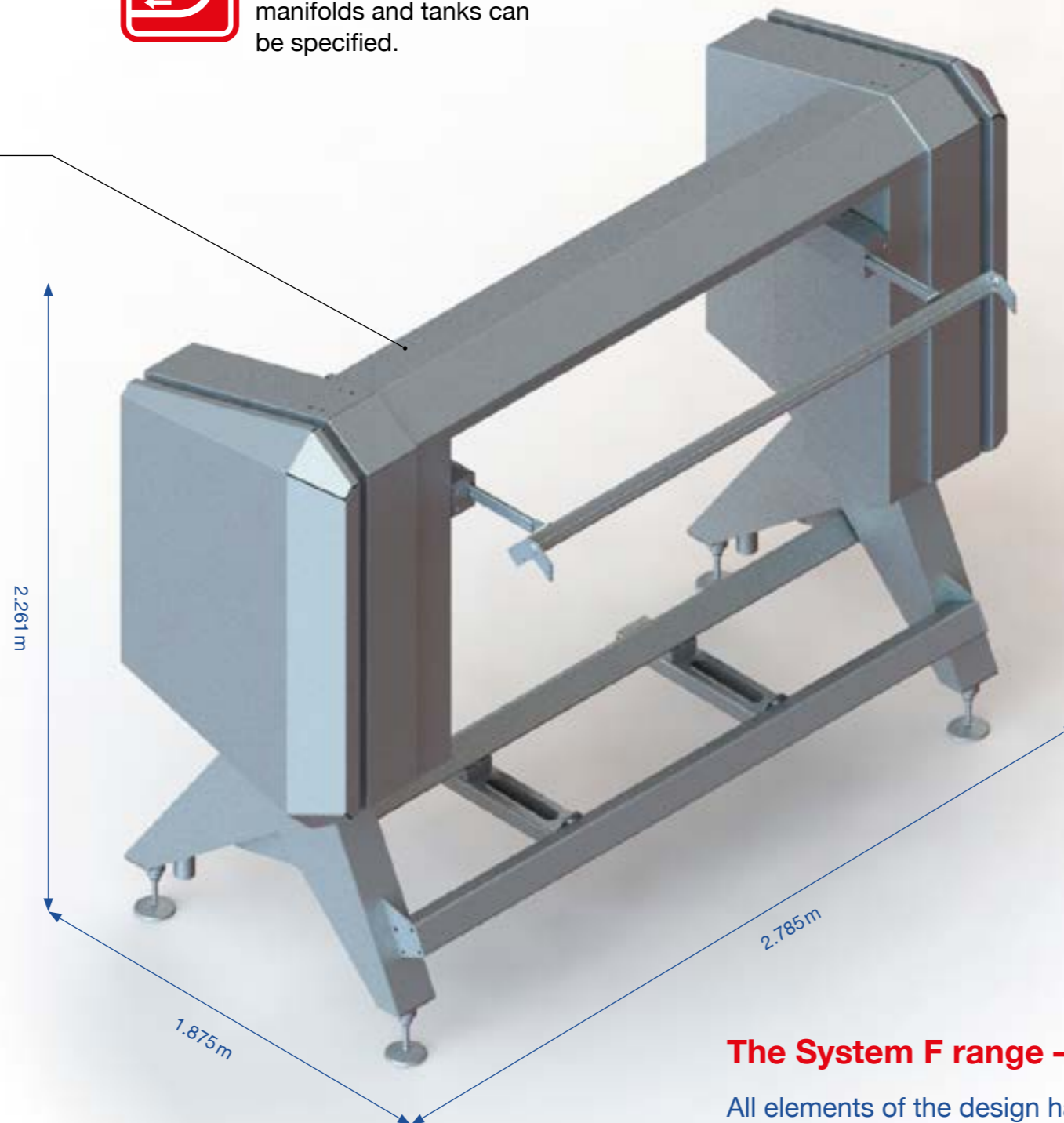
Machine enhancements:

Elevate **System F-1800** to a higher level with a variety of enhancements designed to improve efficiency, security, and production flexibility



User Interfaces:

Ergonomically designed with operator comfort, safety and efficiency in mind.



Conveyor options:

Designed to integrate with most common container handling systems and System H conveyors

The System F range – a step change in filling equipment design

All elements of the design have been questioned, and many deep-rooted industry norms have been challenged through the innovative integration of proven technologies.

The result is a robust, modular filling system that delivers outstanding production flexibility and output, as well as cost-saving efficiency and future-proof scalability.

If you are upgrading to **System F-1800** from another **System** filler, you can continue to use many of the core components you have already invested in.

System F-1800 is exactly what a modern, inline liquid-filling machine should be.

System F-1800



Machine Frame

- Robust yet simple standard assembly
- Welded box frame construction with asymmetrical surfaces offer easy washdown and a clear view of floor area
- Accommodates most machine configurations



Product Supply

Manifold

- Designed to deliver consistent flow rates across all filling heads
- Can be quickly removed for disassembly and convenient cleaning
- Pit and crevice-free interior for exceptional hygiene standards

Tank

- Pit and crevice-free, with open internal angles to eliminate bug traps and ensure hygiene standards
- Mounted directly to valve blocks to eliminate unhygienic connection points, and avoid increased machine footprint and trip hazards
- Can be quickly removed for convenient cleaning



Product Dosing

System F-1800 can accommodate different product dosing technologies according to customer need. Usually volumetric or flowmeter options are selected.

Volumetric Dosing

System F-1800 provides four key enhancements to this proven dosing technology:

- **Hygiene:** The quick-strip design permits:
 - an eight-head filler to be stripped of all wetted components, and re-fitted with a pre-cleaned set in less than 12 minutes
 - full component-level strip of the above within 10 minutes
 - Component cleaning away from the production area
- **Versatility:** Product cylinders ranging from 100ml to 5 litres offer the ability to fill volumes from 20ml to in excess of 5 litres on one machine. Servo-driven product pistons deliver accuracy of up to $\pm 0.05\%$, and Disk Valve technology (patent pending) permits, without modification, the filling of:
 - low viscosity liquids

- pastes with viscosity in excess of 500,000 cPs and challenging rheology characteristics
- soft particulates of up to 12mm diameter
- extremely abrasive products, without causing damage to high-value components
- **Scalability:** Future upgrades do not need to be considered at the point of purchase:
 - Additional filling heads can be retrofitted at any time, at minimum cost, and with minimum downtime
 - Up to 16 volumetric cylinders can be mounted on a standard frame.
 - Twin-Track conveyor option can eliminate time lost to container gating
- **Efficiency:** Superior levels of output, accuracy, and energy efficiency thanks to servo drive technology:
 - Accurate profiling of pump speed helps to optimise product flow rates when constrained by complex container shapes
 - Servo feedback ensures that viscous products are filled as quickly as possible, while working within the performance parameters of the servo drives
 - Individual filling head output of up to 1.3 litres per second with accuracy of up to $\pm 0.05\%$ (dependent on product and container characteristics)
 - Significant energy savings by comparison with pneumatically driven machines

Flowmeter Dosing

System F-1800 can accept either mass or mag flowmeters – the benefits and limitations of each option can be explained by a member of our sales team. Flowmeters introduce no moving components to the product flow area, so are considered easy to flush clean.



Nozzle Carrier

The servo-driven nozzle carrier is fast, precise, and almost silent in operation. A counterbalance system minimises energy consumption on every fill cycle, while allowing rapid acceleration and deceleration. A vertical stroke of 500mm, and an innovative horizontal stroke of 250mm, means the **System F-1800** nozzle carrier permits:

- rise-while-fill filling of large hand-held containers
- programming of complex RWF profiles to optimise filling speed
- filling on parallel conveyors to minimise the impact of container gating time

- maintenance of a clean filling zone by diving the nozzles below the conveyor height for priming and purging
- reduced container changeover time, with automatic location of neck centres against a fixed rear guiderail



Filling Nozzles

Non-drip nozzles are designed to individual requirements, with inward or outward opening shut-off valves.

- Quick adjustment of nozzle pitch to a minimum of 40mm.
- Nozzle bodies are designed to ensure a smooth product path and maximum hygiene
- Remove an individual nozzle assembly and replace with a pre-cleaned assembly in under 20 seconds, and strip to component level in under 1 minute. This results in reduced production downtime, as well as a less pressured cleaning routine
- Nozzle body slider (patent-pending) eliminates the risk of injury or mechanical damage in case of an obstruction during the nozzle dive sequence



Neck Location System

The electrically-driven **System H** neck location module ensures 'clean neck entry'. This module:

- accommodates both 'cone' and 'V' location techniques without significant modification
- enables automatic height and rake adjustment
- incorporates a drip deflector that doubles as the rear container guide
- is designed to be easily washed down, with no exposed threads or hard to clean areas



Conveyor

System F-1800 can be integrated with almost any existing conveyor or scroll feed, or matched with a **System H** conveyor, with the option to upgrade to Twin-Track for increased output.



Safety Guarding

Twin sliding door guards permit quick and convenient access to the filling zone without blocking the walkway. With no solid columns or other obstructions, operators have a clear view of the filling zone and unhindered access when required. Rear guarding is by means of physical guards and light curtain technology, offering quick and easy operator access.



Control System

Omron has been selected as Adelphi's preferred control system supplier. Their systems are cost effective, compact, and backed by worldwide support and next-day delivery. **System F-1800** can also be specified with Siemens, Allen-Bradley, or Mitsubishi systems.



User Interfaces

A stressed machine operator generally results in reduced production output, so **System F-1800** has been designed with operator comfort, safety, and efficiency in mind.

- Mechanical touchpoints are user friendly and require only moderate effort to operate
- Entirely tool-less machine adjustment, and largely tool-less component level strip-down
- Front-mounted full colour, 9-inch touch-screen HMI offering intuitive navigation of the operating menu
- Rear-mounted HMI option for convenient access to key functions during strip and re-fit routines
- Configurable security settings to restrict access to critical machine settings
- USB connectivity for convenient recipe back-up



Transport Caddy

A trolley for safely transporting all wetted components for off-site strip-down, cleaning and storage.



Machine Enhancements

- **Wetted Parts:** An extra set of wetted parts to facilitate fast changeovers and thorough cleaning routines
- **Production Security:** Electronic fobs or individual user codes to secure critical areas of **System F-1800**, and an entry log to record access
- **Service Contract:** Regular preventative maintenance ensures continued machine efficiency, and reduced machine downtime. Special servicing and spares rates are offered with Service Contracts
- **Fill-Zone Lighting:** Energy efficient LED lighting to illuminate the filling zone, programmable to flash and/or change colour, to signal machine status
- **Remote Assistance:** Component wear data can be monitored and machine diagnostics performed promptly. Assistance can be given with machine and recipe setup, and software updates applied as they become available



The Adelphi System Range

With our **System** range, we are developing an entirely new set of packaging machines that are not only excellently engineered, but thoroughly designed. A clear focus on innovation that serves business needs, with radical improvements that often surpass current industry norms, results in a harmony of function and form.

MODULAR

Tailored to your needs at a favourable price

Individual machines can quickly be specified to your requirements thanks to **System's** modular designs. Every module is a standard item that can be held in stock, so there is little need for time-consuming engineering input, and our fast delivery times will help you get your production up and running quickly.

EFFICIENT

Maximum output with minimum input

Innovative design and use of the latest technology ensure that our **System** machines deliver superior levels of accuracy and speed, and extremely efficient product and container changeover routines, while using less energy. That means increased output at less cost and with less down-time.

HYGIENIC

Inherently clean design with easy access

Every element of our **System** range is designed with hygiene in mind, with quick-strip product contact parts manufactured in 316L-grade stainless steel, and no horizontal surfaces where fluids can pool. The area under our machines is also visible and easily accessible to aide the maintenance of a clean production environment.

SCALABLE

Buy for today, save for tomorrow

With our **System** range, you no longer have to pay now for capacity that you hope you will need in the future. Instead you can quickly and cost-effectively grow your filling line, simply by adding or upgrading modules only when you need to.



Liquid-filling
equipment



Container capping and
closing equipment



Primary packaging
handling equipment