

THE ROBOTIC FILL-FINISH CELL RANGE

Engineered to meet the **latest aseptic manufacturing regulations**, the fully autonomous solution offers flexible processing of up to **3,000 RTU containers per hour**.

Fill-finish of RTU vials, syringes and cartridges in tubs/trays



PRINCESS ROYAL
TRAINING AWARDS



THE MARKET NEEDS

The recent rise in ATMPs and personalised medicine has altered the drug manufacturing landscape, and risk reduction has become more important than ever.

Typically produced in small, high-value batches, these groundbreaking therapies demand sterile manufacturing conditions and require the highest quality standards.

Often serving a small patient population, flexibility now falls key to enabling multi-format filling, small batches and a fast changeover.

In addition, cGMP regulations have become more stringent over the last few years with the latest revision of Annex 1.

With compliance now more important than ever, autonomous equipment offers a ready-made and cost-effective solution with shorter lead times, from purchase to installation, to drug production.

KEY FEATURES

MULTI-FORMAT FLEXIBILITY

Fill-finish of RTU vials, syringes and cartridges in tubs/trays.



POTENT PRODUCT CAPABLE

- HEPA H14 Safe change filtration
- Wash down design

AIR RECIRCULATION TECHNOLOGY

Our air recirculation technology reduces your energy consumption by drawing air in from the cleanroom and recirculating it.



ENVIRONMENTAL COST OF OWNERSHIP

BOWL-LESS TECHNOLOGY

Robotic Vision guided pick and place system removes need for bulky, difficult to sterilise vibratory bowl feeders



Machine height: 2450mm

PLUG & GO

Autonomous design reduces site integration time



ARGUS PRODUCT SHIELD

Designed to ensure the highest product quality

HY-PER SAFE REVOLVING DOOR

- Rapid Hydrogen peroxide decontamination system

6 LOG Reduction

OUR SOLUTION

The Robotic Fill-Finish Cell has been designed to meet rigorous industry standards (including the latest revision of Annex 1) during the process of filling and closing RTU containers.

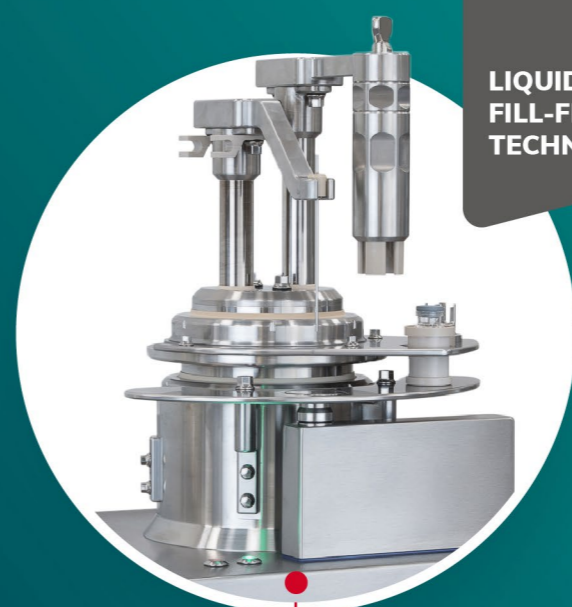
The system has been engineered with multi-format flexibility and small batch

capability in mind whilst ensuring product loss is minimised during start-up and production.

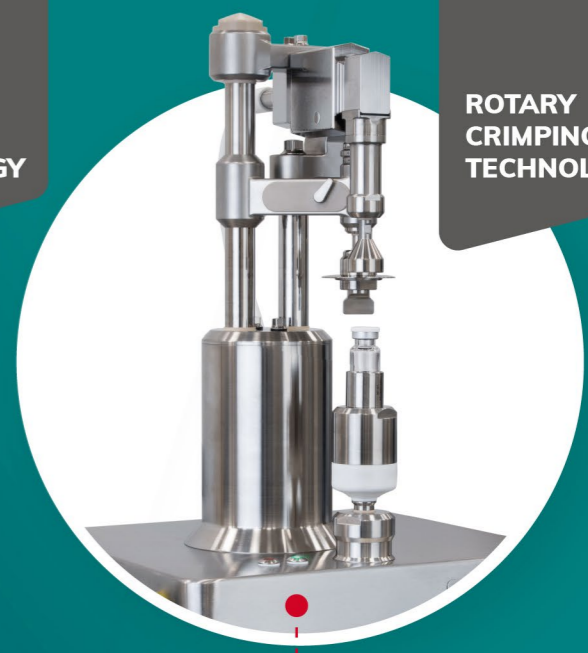
Our autonomous, flexible and cost-effective solution is underpinned by the ARGUS Product Shield - 3P innovation's product security management system.

CONFIGURABLE SOLUTION

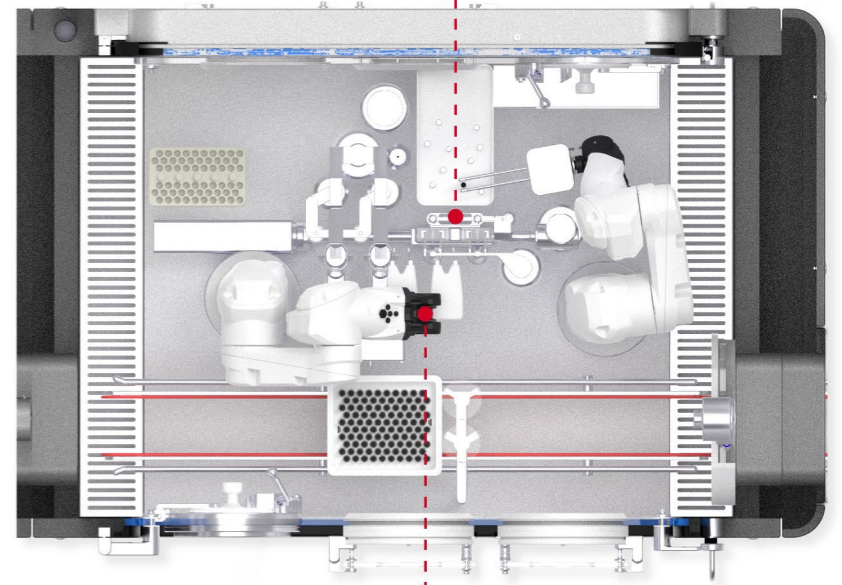
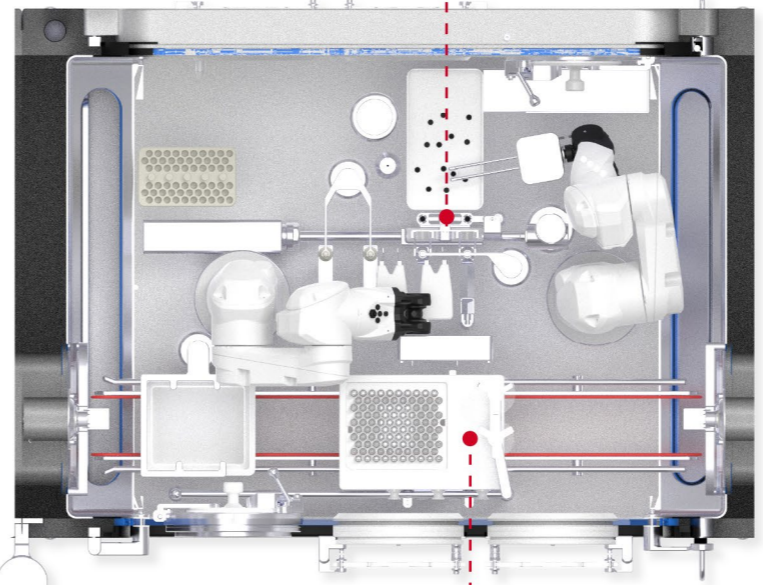
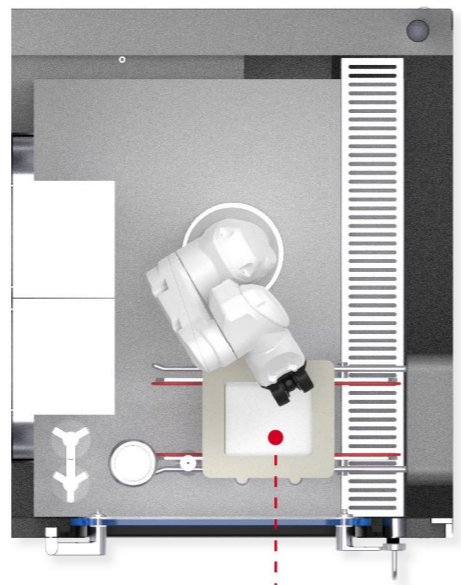
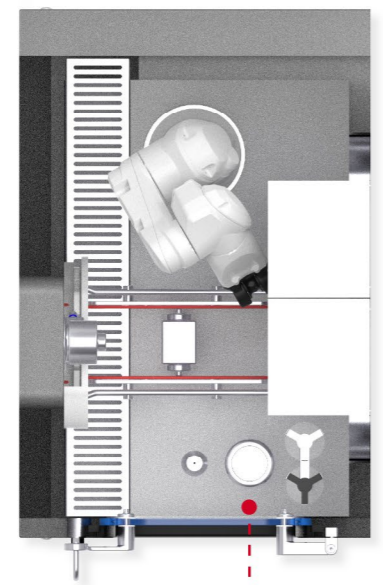
The Robotic Fill-Finish Range is a user configurable solution enabling you to create the right solution for your application, offering ultimate flexibility. Removing the container from the nest in the filling and crimping chambers enables 100% IPC fill weight and stopper placement, while ensuring any rejects are never placed in the nest.



LIQUID FILL-FINISH TECHNOLOGY



ROTARY CRIMPING TECHNOLOGY



NO-TOUCH TRANSFER CHAMBER (NTT)

30 MINUTE VPHP CYCLE

TUB DELIDDING

FILLING AND STOPPERING

ROTARY CRIMPING

ARGUS PRODUCT SHIELD

ARGUS Product Shield is 3P innovation's comprehensive security management system, designed to protect your product through each and every stage of fill-finish/processing:



- Full Hydrogen peroxide monitoring throughout the process guarantees a repeatable decontamination cycle along with low PPM after aeration
- Engineered with 'first-air' flow principle
- Preheated lid removal aids low particulate generation
- No 'sliding' motion of RTU format primary containers or glass on glass allows for gentle handling.
- Full IPC (during filling) on an individual container basis enables rejection of single containers instead of the entire tub, minimising product loss
- Visual inspection of correct stopper placement and crimp quality
- Force feedback on capping and crimping processes along with recipe-driven parameters guarantees container closure integrity (CCI)
- The gentle disc crimping process uses minimal rotation, reducing particulate generation
- Fully integrated environmental monitoring and management
- Recipe management system with 21CFR11 features, maintains data integrity



ENVIRONMENTAL COST OF OWNERSHIP (ECO)

When considering environmental impact, the main factors are energy, raw materials and waste. With traditional aseptic fill-finish lines, the biggest impact on the environment comes from cleaning. Preparing and decontaminating the equipment ready for use, cleaning and decontaminating vials, preparation and management of air suitable for the environment, washing equipment after use and dealing with effluent.

All activities are driven by the essential need to protect the drug product from contamination.

HOW 3P INNOVATION REDUCES YOUR ECO

ELIMINATE

- No need to wash and sterilise RTU vials on the line. This eliminates the need for water or steam, drastically reducing energy consumption and waste generated at this stage in the process.
- The Robotic Fill-Finish Cell is integrated in its own isolator, so it can be located in a Grade C or D room, eliminating the need for a Grade B.

REDUCE

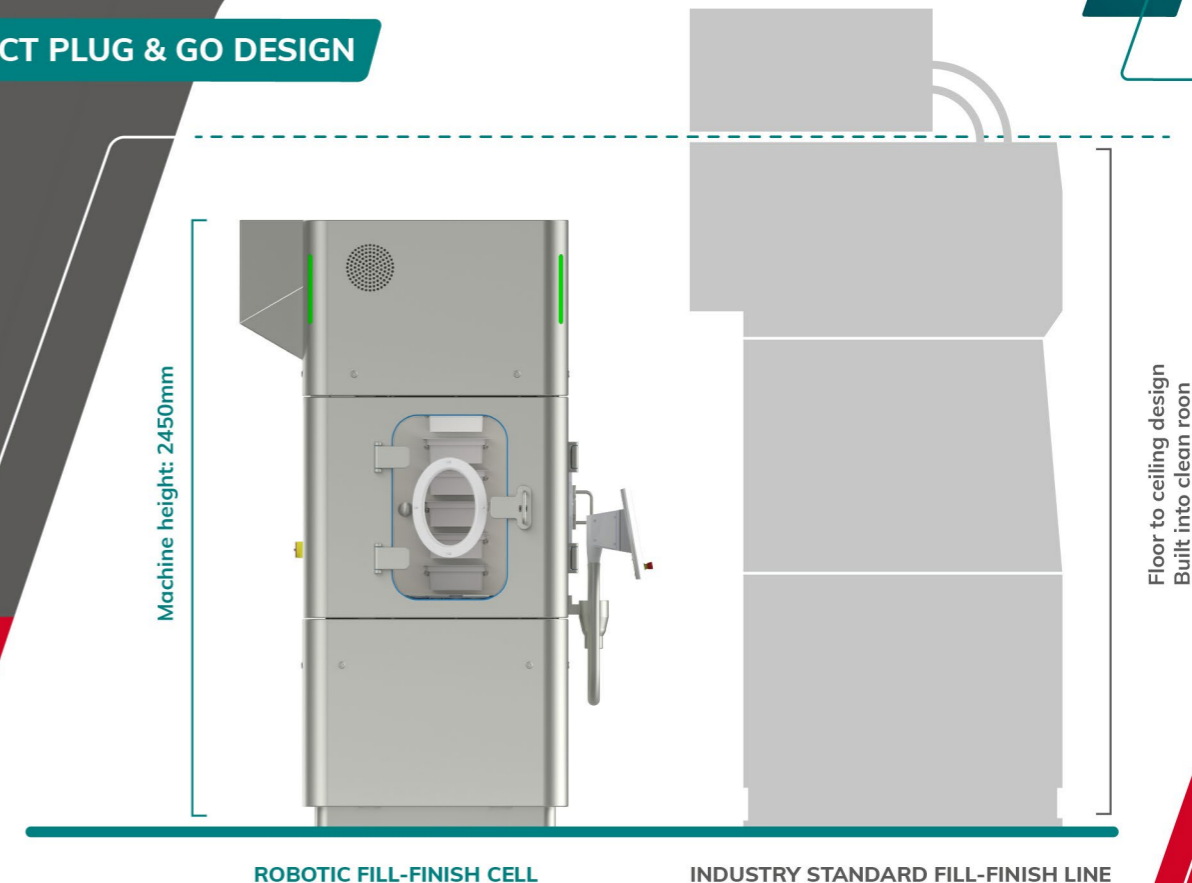
- A compact footprint with small filling chambers – the Robotic Fill-Finish Cell has been designed with energy consumption in mind. Less air volume means less air to manage, reducing energy consumption to operate and less VPHP required during the decontamination cycle.
- Automated fill-finish – reducing the need for operators. Less risk to the overall process and less PPE waste.

RECOVER

- Our air recirculation technology reduces energy consumption by drawing air in from the cleanroom and recirculating it.
- Our catalytic conversion of hydrogen peroxide allows air to be recycled into the cleanroom.

Unlike traditional systems, the Robotic Fill-Finish Cell can retrofit into existing clean rooms with minimal requirement for site integration.

COMPACT PLUG & GO DESIGN



	VIALS + PRESS FIT CAPS	VIALS + CRIMP CAPS	SYRINGES / CARTRIDGES
DIMENSIONS NTT	1.15m (1.35m) L x 3.7m D x 2.45m H	1.15m (1.35m) L x 4.8m D x 2.45m H	1.15m (1.35m) L x 3.7m D x 2.45m H
DIMENSIONS NTT & VPHP	1.15m (1.35m) L x 5.4m D x 2.45m H	1.15m (1.35m) L x 6.5m D x 2.45m H	1.15m (1.35m) L x 5.4m D x 2.45m H
CONTAINER CLOSURE METHOD	Press fit, ARaymond, West Daikyo	Rubber stopper and aluminium crimp cap	Vacuum stoppering Vent stoppering
INSPECTION SYSTEMS	<ul style="list-style-type: none"> • 100% liquid net weight • Vision inspection of closure • Closure force measurement 	<ul style="list-style-type: none"> • 100% liquid net weight • Vision inspection of closure • Crimp compression force measurement 	<ul style="list-style-type: none"> • 100% liquid net weight • Vision inspection of stopper position
APPLICATIONS	Biologics Viral vectors ATMPs Clinical trial supplies Drug studies		
LIQUID TYPES	Aqueous and solvent-based solutions, suspensions High-viscosity liquids, gels, creams and syrups		
PRODUCT INPUT	Hydrogen Peroxide (VPHP) and NTT system		



3P innovation is a dynamic, successful engineering and automation company with a strong reputation for helping multi-national customers to develop, produce and commercialise new products quickly and cost-effectively.

OUR EXPERTISE IS SPLIT ACROSS TWO DIVISIONS:

Our **3P pharma equipment** portfolio, has been designed to support customers through the different phases of their product's lifecycle - from initial drug development activities, through clinical stage manufacturing and onto commercial scale production.

Focused on quality and production efficiency, each one of our ranges and their equipment have been developed to meet our core values of 'process understanding' and scalable methodology.



3P custom automation is our traditional area of business, working collaboratively with our customers to support product and process innovation and development.

Our specialisms include design and development of equipment for assembly and test automation, web-based material handling and converting, powder and liquid filling, device filling and finishing and also specialist aseptic processing.



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