

EXCEL B VOLUMETRIC IN-LINE FILLING MACHINE



CE  **ATEX rated**

For hand sanitiser and other explosive products Non-ATEX rated option available.

The **Gravfil®** EXCEL B is a PC-PLC and servo motor controlled liquid filling machine. Filling nozzles are specifically designed and selected to suit the customer's products and containers.

When the correct number of containers are detected in position, the filling nozzles descend automatically. The locator/drip tray system ensures narrow necked containers are correctly aligned.

The product is dispensed by a servo-controlled positive displacement piston. On completion of the filling cycle the heads retract, the gating mechanism allows smooth exit of the containers.

- ✦ **LOW COST**
- ✦ **VERSATILE**
- ✦ **SIMPLE TO OPERATE**
- ✦ **HIGH OUTPUT**
- ✦ **SMALL FOOTPRINT**
- ✦ **SIMPLIFIED PRODUCT CHANGE OVER**
- ✦ **QUALITY MONITORING SYSTEM**
- ✦ **REMOTE SUPPORT**

SPECIFICATIONS

| | | | |
|-------------------------------------|--|-------------------------------|--|
| ● Filler Type | Gravfil® Excel Linear Servo filler | ● Nozzle control | Pneumatic |
| ● Filler Size | Excel B | ● Change part type | Adjustable |
| ● Machine size (W x H x D) | 142cm x 200cm x 130cm | ● Cleanliness standard | Personal hygiene. Food. Household products |
| ● Weight | Up to 1200Kg | ● Materials | Stainless steel clad frame |
| ● Tank Volume | 120L | | Contact parts: Stainless steel 316 and PTFE |
| ● Voltage | 415v AC | | Parts in contact with the container or cap – manufactured from stainless steel or suitable plastic |
| ● Air pressure | 6 Bar 90 PSI | | EC Machinery Directive compliant |
| ● Pumping cylinders | Options from 2 – 12 | ● Machine guards | Optional |
| ● Cylinder volume | Options from 250ml – 1500ml | ● Integrated CIP | Optional (requires air extraction) |
| ● Accuracy | > 99.95% of setpoint | ● ATEX Rated | 15 inch touch screen |
| ● Repeatability | +/- 0.1% | ● HMI size | Yes |
| ● Filling range Low | 2% of cylinder volume | ● Status light beacon | Siemens |
| ● Filling range High | Infinite with multi-pump capability | ● Control system | Yes |
| ● Filling speeds | Up to 100 BPM | ● Remote diagnostics | Yes |
| ● Profile filling capability | Yes | ● User manual | Yes |
| ● Nozzle type | Changeable options | | |
| ● Nozzle size | Options to suit container size and filling rate | | |

ADVANCED PROFILE FILLING SYSTEM (APF)

Gravfil® filling machines use our advanced profile dual-servo drive system for all container and product types. The innovative system allows the fill speed, nozzle speed and nozzle position to be optimised and controlled through our software.

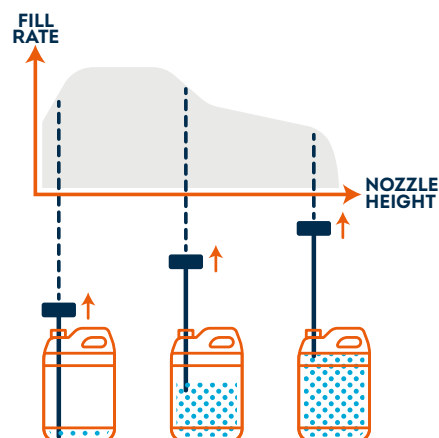
If required a container can be filled from the bottom up with the filling nozzle positioned as required during the fill cycle. The operator can maximise production requirements using our programmable filling speed functionality.

Infinite adjustment of the nozzle position

The nozzle can be positioned just below or just above the fluid level. This guarantees the nozzle position remains constant to the fluid level throughout the cycle.

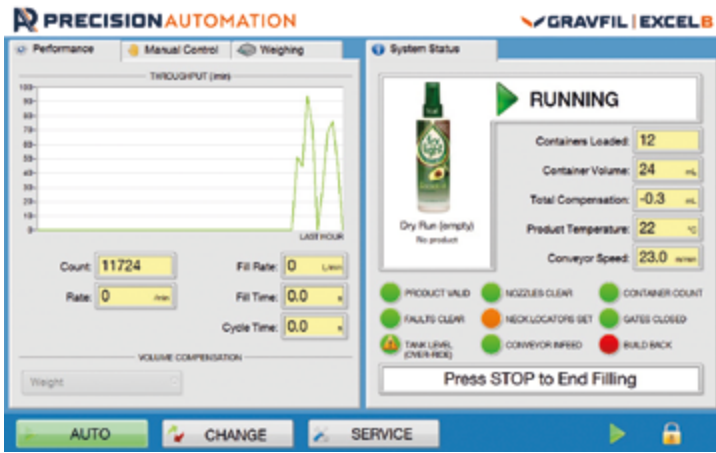
More conventional and widely available pneumatic systems can only offer single or dual speed functionality.

- **Reduce fill rate for smaller surface areas**
- **Increase fill rate for larger surface areas**
- **Dual-servo drive**
- **Infinite liquid fill speed control**
- **All shapes and sizes of container**



PROFILE MAPPING FOR FLEXIBLE FILLING

Complicated shaped containers, demanding non-viscous or foamy product are quickly optimised for faster or slower filling speeds directly from the 15-inch touch-screen HMI.



TOUCH-SCREEN HMI USER INTERFACE

The easy-to-use software can be accessed by the operator on the **Gravfil®** Excel HMI screen.

- Run instructions
- Change-over instruction
- Machine status
- Advanced Profile Filling options

Maintenance technicians can access all the required information for fast diagnostics should any problems arise. Secure passwords allow the technician to manually actuate the controls and view input/output status.

OPTION CLEAN-IN-PLACE

A pneumatically actuated ball valve allows cleaning fluid to enter the top tank via two spray nozzles.

The system fills the top tank to the low level sensor and then automatically exercises the cylinders until all of the cleaning product has been pumped through the fill lines.

The system can be configured to best suit the customer's standard of cleaning and flushing solution specification:

- Configurable and integrated system
- Configurable volume of cleaning fluid
- Select number of pump cycles
- Optimise pump speed
- Flushed into customer's waste tank

STANDARD SERVICE REMOTE DIAGNOSTICS

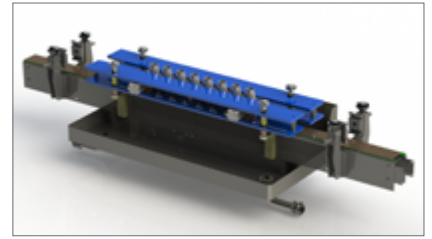
All Precision Automation equipment is designed using the very latest hardware. The PC interface and ethernet communication protocol means that we can remotely connect through the customer's VPN or 4G device. Our service desk can monitor the condition of the control system and, if required, take control of the machine. This important advanced feature further improves machine uptime and most cases prevents the requirement for on-site intervention.

OPTION QUICK CHANGE PARTS

Easy and swift product change over are the invaluable benefits of our **Gravfil®** quick change part system.

- Individual parts for specific container size and shape
- Pneumatic gates
- Electrical sensors
- No hand tools required
- Target change speeds <2 minutes

The change parts are secured with thumb screws and the pneumatic and electrical connections on plug and socket.



ENERGY EFFICIENT

Energy efficient Siemens servo drive, motion control and PLC systems. Hibernation mode to minimise power use with up to 30% energy saving over conventional equipment.



STANDARD QUICK CHANGE NOZZLES

All **Gravfil®** in-line filling machines are supplied with the ability to quickly change a nozzle type if required. The quick change ability gives the machine versatility to fill efficiently a wide range of container sizes and a wide range of liquid types.



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