



VF1 Vibratory Feeder

- Increase lab productivity
- Improve fill accuracy
- Eliminate spills
- Adjustable flow rate
- Gentle powder handling
- No powder compaction
- Sterile construction
- Compact and versatile
- Integrates with lab balance or high-speed weigh cell

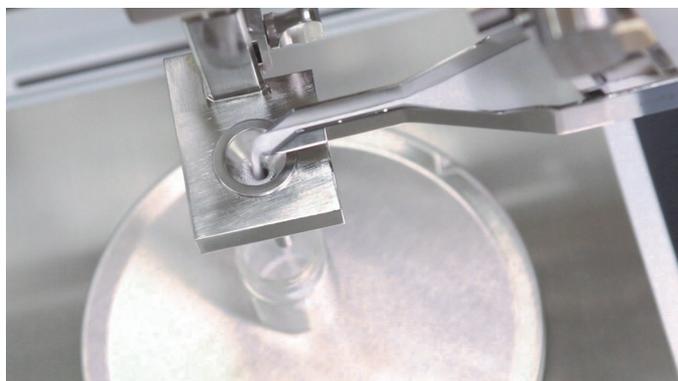
Applications:

- Drug formulation and development
- Powder-in-capsule (PIC) and powder-in-bottle (PIB) filling
- Lab-scale filling
- Continuous and on-demand feeding (e.g. blenders, millers, bioreactors)
- Pre-clinical and clinical batch manufacturing
- Sterile manufacturing



The **VF1 Vibratory Feeder** has been developed to manually dose free-flowing powders into capsules, vials, devices or processes under GMP conditions including sterile environments.

Technical details



Improve productivity with high-speed filling



Nozzle shut-off to prevent spills

Dose Accuracy (manual) $\pm 1\text{mg}$ dependent upon flow rate, environment and weigh technology

Speed
 With a 0.5g/cc free-flowing powder
 25mg $\pm 4.0\%$: 7.5 cpm
 300mg $\pm 2.5\%$: 5.0 cpm

Powder Types / Capability
 Free-flowing and semi-cohesive
 (3P's **Fill2Weight** system is recommended for cohesive powders)

Compaction
 0%, ideal for inhalation and reconstitution applications

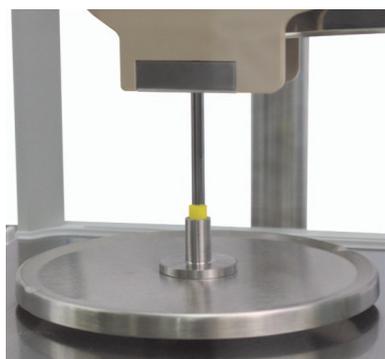
Supplies
 Electrical: 100-230V AC@50Hz 1A (13A fuse)

Standard Items
 Vibratory feeder
 Vibration controller
 Dose button
 3 standard nozzles (20mm, 30mm and 40mm long with 3.2mm internal dia.) with alternative designs available
 Long-reach cable set

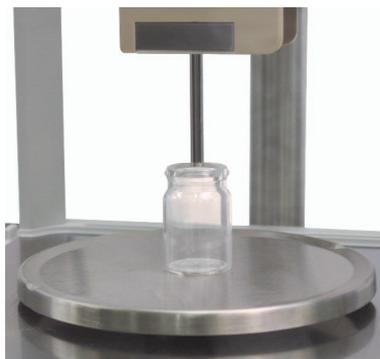
Ionisation (optional)
 Haug one point ionization system to manage static—compatible with either nitrogen or clean air supply

Nitrogen Purge (optional)
 Nitrogen purge for nozzle area—typically 0.1 - 0.2 l/min

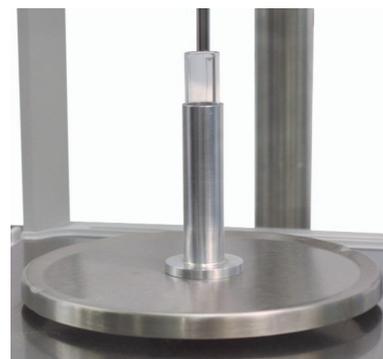
Typical Container Types
 Capsules, vials, cartridges, syringes, inhalers, blisters, devices



Fill capsules



Fill vials



Fill cartridges / syringes

Spill Free

The VF1 Vibratory Feeder eliminates the need for spatulas and reduces the risk of spills. Simply press a button and fill precisely and directly into your capsule, syringe, container or process. Release to stop filling.



Easy-fill powder hopper

Scalable

The VF1 Vibratory Feeder clinically proves a filling methodology which can be scaled up later in a semi-automated or fully automated production machine. It can also be scaled using 3P's **Fill2Weight** system.

Variable Flow Rates

The VF1 Vibratory Feeder provides variable flow rates to strike the perfect balance between speed and accuracy. This is achieved through independent control of both the nozzle and feeder vibration settings.

Flexible Fill Position

The VF1 Vibratory Feeder is fully adjustable, enabling dispensing at an optimum height to prevent particles becoming airborne and contaminating the container sealing surfaces.

Full GMP, Sterile Design

The VF1 Vibratory Feeder system is very mobile and can easily be located in an existing isolator or other containment solution. Its fully sterile, GMP compliant design supports clinical and commercial manufacturing. It is suitable for sterilisation, autoclaving and HPV cycles.

Flexible Weighing Options

The VF1 Vibratory Feeder is designed to use a range of free-standing lab balance or can be integrated with a high-speed weigh cell to increase throughput and weighing resolution.



Simple push-button control

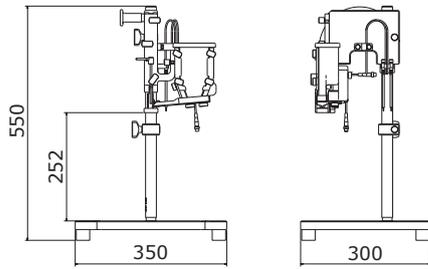
Ionisation and Gas Feed Integration

The VF1 Vibratory Feeder can integrate an optional nitrogen purge to remove oxygen from the filling nozzle area. Highly static powders and/or containers can be managed using an optional ionisation system.

Customised Design Options

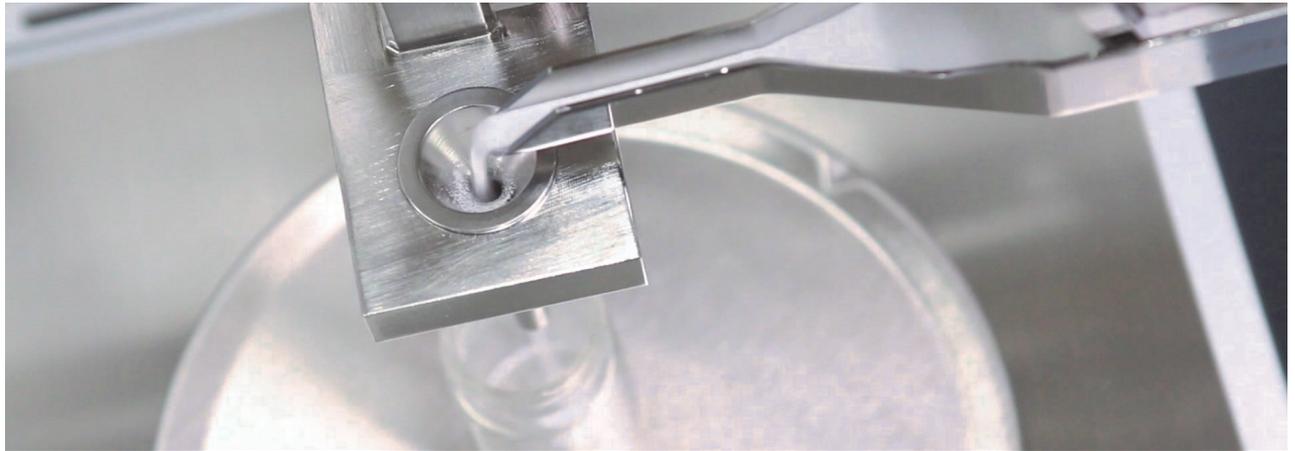
3P can provide custom tooling for container handling, system mounting and alternative nozzle designs.

Vibratory Feeder Module Configurations	Mounting	Weighing Type	Display / Records
VF1-S	Stationary mounting	Lab balance	Lab balance + manually recorded
VF1-SW	Stationary mounting	High-speed weigh cell	Laptop, data capture or LCD display + printer
VF1-MLW	Manual lift/lower mounting	High-speed weigh cell	Laptop, data capture or LCD display + printer
VF1-ALW	Auto/semi-auto lift/lower mounting—platform technology	High-speed weigh cell	LCD display + printer



STANDARD TECHNOLOGIES + CUSTOM ENGINEERING = OPTIMUM SOLUTIONS

VF1: Vibratory Feeder



3P innovation Ltd offers a powerful combination of proven, standard technologies and machine platforms with custom automation skills and methodologies that help customers develop and commercialise new products faster, at lower cost and lower risk.

3P designs and manufactures high-end, scalable production solutions, from lab-scale and bench-top equipment to pilot plant, clinical and full-scale production systems. Our specialisms include design and manufacture of cleanroom and aseptic processes, powder and liquid filling and parenteral device fill and finish.

3P also specialises in medical device assembly and test. We have extensive experience in web and sheet material processing, including wrapping, punching, cutting, heat-sealing and welding. In addition we design and integrate full containment and environmental control systems as an essential part of our service.

With world-class quality, our machine solutions cover a wide range of products and devices, including inhalation, parenterals, reconstitution syringes, pre-filled syringes, patch pumps and wearable drug delivery devices, sustained release depot drugs, capsules, cartridges and vials.

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