hanningfield

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Multi-Product Brochure

An introduction to the Hanningfield product range; machinery for the processing, handling and containment of powder in manufacturing of oral solid dosage (OSD) pharmaceuticals. This includes: **Milling & Sizing, Conveying & Transfer, Lifting & Blending** and **Capture & Control.**

Company Profile

A Family Business

Founded in 1987, Hanningfield is an independent family-owned business, giving us the freedom and passion to deliver better products, ideas and service. This means we care about our long-term relationships with customers, suppliers and staff.

Hanningfield's equipment is manufactured at the United Kingdom facility. Many staff have proudly worked for the company longer than 20 years, ensuring we maintain the highest levels of workmanship and care.

Experts in Process Machinery

We design, manufacture, supply and install machinery for the handling, processing and containment of powder in oral solid dosage (OSD) manufacturing of pharmaceuticals.

This expertise has led us into related industries such as food, chemical, nuclear, cosmetic and nutraceuticals, where the challenges surrounding the control and manipulation of powder are similar. Such experience has ensured we are capable of meeting the highest standards of quality across various industries, while retaining a proficiency for custom requirements.

Locations

Hanningfield has four dedicated locations to better serve our customers wherever they are in the world. The regional offices are as follows:

- Hanningfield Process Systems Ltd (UK-based headquarters, serving worldwide)
- Hanningfield USA Inc (serving USA, Canada, Puerto Rico and Mexico)
- Hanningfield Asia-Pacific Pty Ltd (serving Australasia and the Asia-Pacific)
- Hanningfield India Pvt Ltd (serving India and the SAARC Region)

Manufacturing

Hanningfield is a proud British manufacturer based out of Essex, United Kingdom.

We use the latest SolidWorks and AutoCAD drawing packages to produce accurate 2D and 3D models. Machines and new concepts are then brought to life by our skilled machinists, welders and polishers. All equipment undergoes rigorous inspection before leaving the factory and, if required, we can provide installation services to a customer's site anywhere in the world.

CAD Design

Machining

Fabrication

Welding

Polishing

Assembly & Testing

Quality and Accreditations

Committed to Quality

Hanningfield works in industries where quality and integrity are paramount. Accordingly, we hold the following accreditations and memberships as part of our commitment towards excellence.

ISO 9001

ISO 14001

SafeContractor

Safe PQQ

ATEX / QAN

SHAPA

EHEDG

Fit For Nuclear (F4N)

Made in Britain

Milling and Sizing

Hanningfield offer high integrity machines for achieving various particle sizing processes.

This enables us to handle everything from bulk agglomerates to micronized material.

6 **Conical Mills** (Under-Driven)

8 **Conical Mills** (Over-Driven)

10 **Sifters** (Centrifugal Screening)

12 **Lump Breakers**

13 **Pre-Breakers**

14 **Particle Sizing Solution**

Conical Mills (Under-Driven)

Technical Overview

Conical mills are designed for milling processes in the pharmaceutical, food, chemical and related industries. The conical mill offers numerous benefits over alternative milling methods including higher throughput, tighter particle size distribution, easier cleaning/maintenance and less noise, heat and dust. They are suitable for a wide range of applications and offer full process scalability from laboratory to pilot to production.

The Uni-Mill U-series (M05-U, M10-U, M20-U, M30-U) utilises the current industry standard under-driven conical mill design, featuring a gearbox-driven impeller, rotating inside a screen. The spacer-less design provides an optimal gap for particle size reduction in both dry and wet milling applications.

The design can be highly customised with features such as detachable mill-head, temperature monitoring, CIP, WIP, pre-breakers, nitrogen purging and ATEX execution where applicable.

Features:

- Stainless steel construction (with 316L contact parts)
- All seals FDA compliant (silicone, PTFE etc.)
- No metal-to-metal contact
- Easy-clean, GMP design (with optional features such as detachable millhead for autoclave or CIP/WIP)
- ATEX (ex-proof) versions available

Benefits:

- High throughput for maximum productivity
- Achieve various particle sizes on one machine, simply by changing screen and / or impeller
- Easy to operate
- Low heat, dust and noise generation for improved working environment
- Process scalability from lab to pilot to production
- Spacerless design for pre-set optimal milling gap
- In-line inlet and outlet for ease of process integration

Product Images

Data Table

Criteria	Unit	M05-U	M10-U	M20-U	M30-U
Max. Throughput	kgs/hr	200	400	2000	4000
	lbs/hr	425	850	4250	8800
Screen Diameter	mm	83	127	203	306
	in	3.25	5	8	12
Standard Motor	kW	0.375	1.5	4.0	7.5
	HP	0.5	2	5	10
Approx. Weight	kgs	40	140	160	400
	lbs	90	310	350	880
Standard Speed	RPM	3600	2440	1480	960
Lowest Achievable Particle Size	Approx. 150 microns (80 mesh)				
Typical Noise Level	<78dB (under factory test conditions)				
Contact Parts	AISI 316L stainless steel (1.4404)				
Non-Contact Parts	AISI 304 stainless steel (1.4301)				
Country of Design	United Kingdom				
Country of Manufacture	United Kingdom				

*Capacities can vary according to application specifics (e.g. feed particle size, target particle size, material hardness).

Typical Applications

Milling into Drum

IBC to IBC Milling

Isolator Milling

Table Top Laboratory Scale Milling

Wet Milling (Post-Granulation)

In-Line Vacuum Transfer Milling

Conical Mills (Over-Driven)

Technical Overview

The Hanningfield Uni-Mill B-Series (M10-B, M20-B, M30-B, M60-B) utilises the current industry standard over-driven conical mill design, featuring a belt-driven impeller, rotating inside a screen (60° inclusive screen angle). This principle achieves comminution by compression and shearing of the particles between the impeller and surface of the screen.

The Uni-Mill over-driven models are designed to be used with spacers, allowing customers to adjust and set the optimal gap between the screen and impeller for efficient milling (for spacer-less mills see Under-Driven Conical Mills). The Uni-Mill can be supplied with a wide-range of tooling to achieve the required final particle size and throughput. Conical mills are able to achieve size reduction as low as 150 microns (80 mesh) with minimal heat generation and are suitable for both dry and wet milling applications.

As standard, all contact parts are manufactured from 316L stainless steel (180 grit), with FDA compliant seals, gaskets etc. Non-contact parts such as frames, motor covers and control panels are manufactured from 304 stainless steel (150 grit). All standard materials of construction and surface finishes can be upgraded or downgraded upon request.

Features:

- Stainless steel construction (with 316L contact parts)
- All seals FDA compliant (silicone, PTFE etc.)
- ATEX (ex-proof) versions available

Benefits:

- Perfect for heat sensitive materials or rugged applications
- Lower noise due to belt-driven operation
- Achieve various particle sizes on one machine, simply by changing screen and / or impeller (spacers required)
- Easy to operate

Product Images

Data Table

Criteria	Unit	M10-B	M20-B	M30-B	M60-B
Max. Throughput *	kgs/hr	360	1800	3600	7200
	lbs/hr	800	4000	8000	16000
Screen Diameter	mm	127	203	305	609
	in	3.25	8	12	24
Standard Motor	kW	1.5	4	7.5	15
	HP	2	5	10	20
Standard Speed	RPM	2440	1480	960	480
Approx. Weight	kgs	150	200	250	475
	lbs	330	440	550	1045
Lowest Achievable Particle Size	Approx. 150 microns (80 mesh)				
Typical Noise Level	<78dB				
Contact Parts	AISI 316L stainless steel (1.4404)				
Non-Contact Parts	AISI 304 stainless steel (1.4301)				
Country of Design	United Kingdom				
Country of Manufacture	United Kingdom				

*Capacities can vary according to application specifics (e.g. feed particle size, target particle size, material hardness).

Typical Applications

In-Line Vacuum Transfer Milling

Hand Feed

Sifters (Centrifugal Screening)

Technical Overview

The Hanningfield Kwik-Sift offers fast and effective powder screening, helping guarantee material integrity through the capture of alien objects (such as nuts, bolts, washers, cable ties). The rotating mesh drum creates a centrifugal screening action, with powder passing through the mesh while retaining those objects larger than the hole aperture. For achieving different grades of separation, various drum mesh sizes are available to meet different application requirements.

The unit can incorporate a single or dual spoiler arm arrangement for performing simple de-lumping of agglomerated material. The spoiler arm simply clamps onto the existing chute via a Tri-Clover.

Various mounting solutions are available including mobile frame, swing-arm, fixed post and hoist mounted. The Kwik-Sift can also be customised with a selection of inlet and outlet configurations including hand-feed chute, valve assemblies, Tri-Clover connections, vacuum adaptors or any other bespoke design required for process integration.

Features:

- Stainless steel construction (with 316L contact parts)
- All seals FDA compliant (silicone, PTFE etc.)
- Various mesh sizes available for multi-product usage
- ATEX (ex-proof) versions available

Benefits:

- Security screening at higher throughput than traditional sieving
- Suitable for delumping and deagglomeration of friable materials (with use of spoiler arm)
- Can be mounted in-line for feeding downstream process (gravity feed or vacuum transfer)

Product Images

Data Table

Criteria	Unit	KS05	KS10	KS20
Typical Capacities *	kgs/hr	5 - 500	350 - 7500	1100 - 23000
	lbs/hr	10 - 1100	800 - 16500	2400 - 52000
Screen Diameter	mm	83	127	203
	in	3.25	5	8
Standard Motor	kW	0.375	1.5	4.0
	HP	0.5	2	5
Approx. Weight	kgs	40	140	160
	lbs	90	310	350
Typical Noise Level	<78dB (under factory test conditions)			
Contact Parts	AISI 316L stainless steel (1.4404)			
Non-Contact Parts	AISI 304 stainless steel (1.4301)			
Country of Design	United Kingdom			
Country of Manufacture	United Kingdom			

*Actual capacity is dependent on material characteristics, notably density, and screen aperture selected.

Typical Applications

In-Line Sifting before Blending

Sifting into Drum

Fill and Weigh Dispensary

Lump Breakers

Technical Overview

Deagglomerating material which has compacted during storage is vital to the success of downstream processes such as milling, sieving, mixing, bagging, and conveying.

The BlockBuster is designed for the processing and size reduction of large blocks, such as Metformin, Urea, or other hard lumps of material. The BlockBuster can typically process a 25kg block of Metformin in <1minute, down to a particle size of approx. 40 x 40mm.

The BlockBuster can reduce large, agglomerated blocks (e.g., 400 x 300 x 300mm) down to approx. 20 x 20mm. The BlockBuster can be combined with a conical mill on its outlet, to further reduce to <1000µm in a single process.

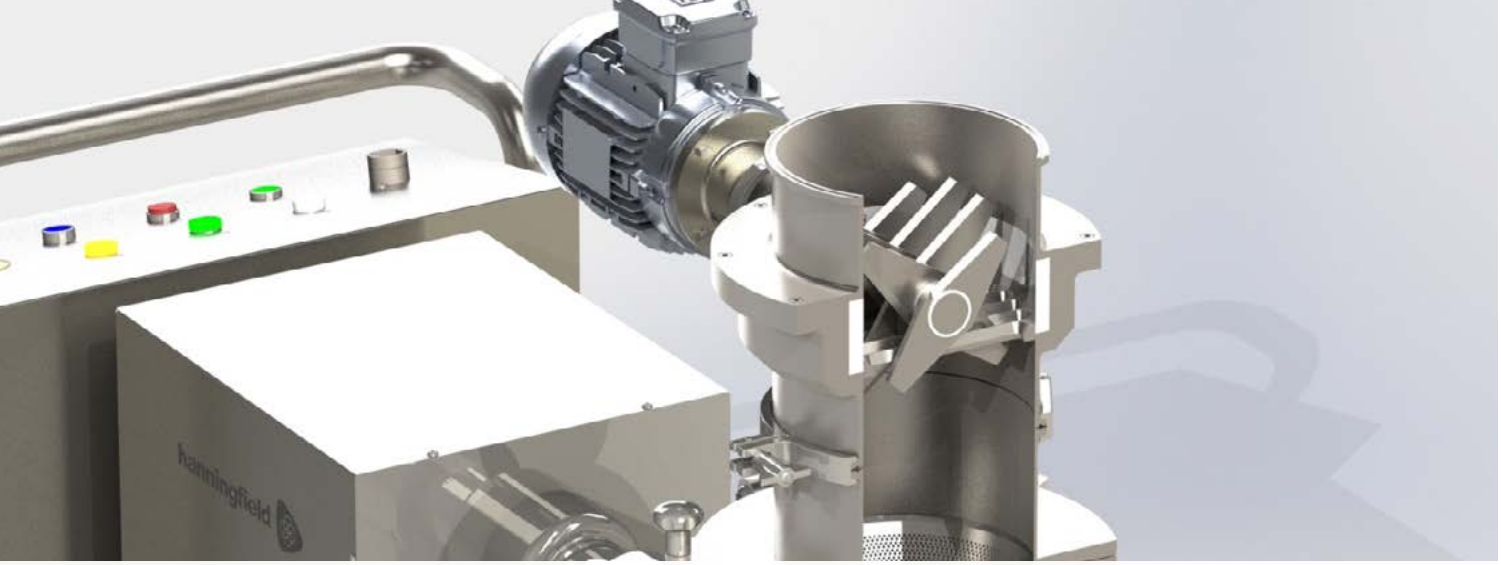
Features:

- Stainless steel construction with FDA compliant seals
- No metal-to-metal contact
- Optional sizing grid for achieving smaller particles
- ATEX (ex-proof) versions available

Benefits:

- High throughput solution for breaking agglomerated material
- Perfect for pre-milling by reducing particle to manageable size
- Can be mounted in-line for feeding downstream process (gravity feed or vacuum transfer)
- Breaker bars can be removed for easy clean

Product Images



Pre-Breakers

Technical Overview

The Hanningfield Pre-Breaker offers fast and effective breaking of materials for initial sizing, prior to size reduction milling. The pre-breaker can also be used as a ‘stand-alone’ machine if fine particle size is not an essential requirement.

The compact and high-speed design is easy to maintain and can be fully dismantled for cleaning without the use of tools. Fast processing is made possible with a round inlet and outlet providing maximum possible opening to full bore, and Tri-Clover connections make in-line installation very simple. Available in the following sizes to suit any application or throughput specification; ND150, ND200 and ND300.

Features:

- Stainless steel construction (with 316L contact parts)
- All seals FDA compliant (silicone, PTFE etc.)
- No metal-to-metal contact
- Easy clean GMP design
- ATEX (ex-proof) versions available

Benefits:

- Compact design for in-line installation
- Connection to upstream or downstream equipment by Tri-Clovers
- Fast macro size-reduction, perfect for pre-milling

Product Images

Particle Sizing Solution

Technical Overview

Many powder processes involve both sifting and milling – a sifter for powder screening and/or to de-lump agglomerated material, and a mill for final particle sizing. A cost-effective way of achieving this is to use a machine with interchangeable sifter and mill heads. The Particle Sizing Solution (PSS) is fitted with a coupling drive arm so the heads can be swapped depending on your needs.

Features:

- Stainless steel construction (with 316L contact parts)
- All seals FDA compliant (silicone, PTFE etc.)
- Various mesh sizes available for multi-product usage (sifter basket and mill screen)
- Easy-clean, GMP design
- ATEX (ex-proof) versions available

Benefits:

- Cost efficiencies (using one machine for sifting and milling)
- High throughput for maximum productivity
- Inline feed and discharge for higher capacity and ease of system integration
- Achieve various particle sizes on one machine (by changing the sifter basket / mill screen)
- Easy to operate
- Low heat, dust and noise generation for improved working environment
- Process scalability from lab to pilot to production

Product Images

Conveying and Transfer

Hanningfield are experts at transferring everything from powders and granules to tablets and capsules.

We can also provide a fully integrated system, managing all interfaces to deliver a complete working process.

16 Vacuum Conveyors

18 Capsule Conveyors

20 Sack Tip Stations and Feed Bins

Vacuum Conveyors

Technical Overview

Hanningfield Uni-Vac vacuum conveyors are a safe and convenient method for transferring powder. Powders, granules, and other materials are transported using a combination of vacuum and air (known as 'Lean-Phase' or 'Dilute-Phase'). The dust-tight sealed system prevents material contamination, while protecting the operator, process and environment from product exposure or accidental spillage (thereby minimising waste).

The Uni-Vac ultra-hygienic 'V-Series' of vacuum conveyors consists of a rolled and seam welded hopper body (all welds removed), which can be customised to any specification. This conveying solution does not require compressed air to operate and is the better option for process rooms with height restrictions as the hopper's sloped sides facilitate greater volumes.

Suited for most process applications, the Uni-Vac hygienic 'VC-Series' of vacuum conveyors uses a vacuum generator to create the air flow. An electro-pneumatic or fully pneumatic control panel is available; this means that the VC-Series is easier to install in ATEX environments.

The Uni-Vac satisfies numerous applications including 'suck-and-dump' and direct loading. Optional upgrade features include level control, line clearance valves, CIP / WIP, HEPA filters, support frames and ATEX execution. All units are assembled using clamps for fast and easy dismantling for cleaning and can be supplied with full validation documentation (FS/DS, FAT, SAT, IQ/OQ) and 3.1 mill certificates to EN10204.

Features:

- Stainless steel construction with FDA compliant seals
- Suitable for powders, granules, flakes, pellets etc
- ATEX (ex-proof) versions available
- Optional 'stepless' design for damage-free transfer of tablets or other fragile materials

Benefits:

- Automate and accelerate loading process
- Dust-tight transfer of material from A to B
- Reduce manual handling (horizontal and vertical transfer)

Product Images

Data Table

	Model *	Max. Throughput **		Hopper Diameter		Hopper Height		Hopper Capacity	Standard Hose Diameter	Contact Parts	Non-Contact Parts
		kgs/hr	lbs/hr	mm	in	mm	in	litres	in		
V-Series	V01	50	110	245	9.65	464	18.27	1	1.0 / 1.5	316L stainless steel (1.4404)	304 stainless steel (1.4301)
	V03	100	220	245	9.65	493	19.41	3	1.0 / 1.5		
	V05	300	660	245	9.65	533	20.98	5	1.0 / 1.5		
	V10	900	2000	400	15.75	803	31.61	10	1.5		
	V20	1200	2650	400	15.75	803	31.61	20	1.5 / 2.0		
	V30	2000	4500	400	15.75	1153	45.39	30	1.5 / 2.0		
	V50	3000	6750	400	15.75	1433	56.42	50	2.0		
	V100	4000	9000	400	15.75	1703	67.05	100	2.5 / 3.0		
VC-Series	VC05	300	660	254	10	490	19.25	5	1.5	316L stainless steel (1.4404)	304 stainless steel (1.4301)
	VC10	900	2000	254	10	590	23.25	10	1.5		
	VC20	1200	2650	254	10	840	33	20	1.5		
	VC30	2000	4500	254	10	1090	43	30	1.5		

* Custom size hoppers available on request
** Values based on standard bulk density product over short convey distance

Typical Applications

Direct Loading (into Blender)

Reactor / Vessel Loading

Vacuum Transfer into Process Machine

Capsule Conveyors

Technical Overview

The Hanningfield CapsuJet capsule conveying system is a proven method for the gentle conveying of hard-shelled gelatin capsules. Designed to overcome the problems of conventional mechanical systems, the CapsuJet is ideal for the automatic loading and unloading of capsule filling machines.

The CapsuJet C20 capsule conveyors are designed for the loading of empty capsules from ground level into the capsule filling machine. The C20 is capable of loading up to 300,000 capsules per hour.

The CapsuJet FCC capsule conveyors are designed for the unloading of capsule filling machines, transferring filled capsules to a downstream container or process. The FCC can transfer up to 200,00 capsules per hour.

As standard, both capsule transfer system models are constructed with all contact parts manufactured from 316L stainless steel (180 grit), with FDA compliant seals, gaskets etc. Non-contact parts such as frames, motor covers and control panels are manufactured from 304 stainless steel (150 grit). All standard materials of construction and surface finishes can be upgraded or downgraded upon request. All equipment can be fully customised to satisfy specific application requirements and can be supplied with full validation documents (FS/DS, FAT, SAT, IQ/OQ) and mill certificates to EN10204 (3.1)

Features:

- Stainless steel construction with FDA compliant seals
- Optional level control in filling machine hopper for automating loading process.
- Hopper can be customised to accommodate extra capsules
- Very low noise levels

Benefits:

- Eliminates manual handling and ensures filling machine never ‘runs dry’
- Gentle convey with virtually zero capsule damage
- Suitable for all sizes of hard shell capsule

Product Images

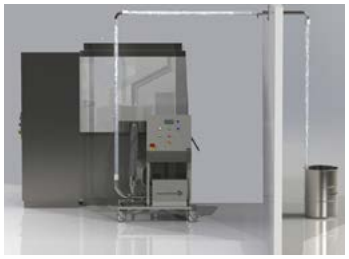
Data Table

Criteria	Unit	CapsuJet C20	CapsuJet FCC
Application Type	–	Transfer of Empty Capsules	Transfer of Filled Capsules
Transfer Rate	capsules/hr	300,000 *	200,000 *
Max. Vertical Convey Distance	m	10	5
	ft	33	16
Max. Horizontal Convey Distance	m	5	2.5
	ft	16	8
Standard Hopper Size	litres	200	No hopper required
	capsules	100,000 size “0” Capsules	No hopper required
Approx. Dimensions	mm	(H) 1180 x (W) 760 x (L) 1215	(H) 1150 x (W) 500 x (L) 885
	in	(H) 46 x (W) 30 x (L) 48	(H) 45 x (W) 20 x (L) 35
Approx. Weight	kgs	150	100
	lbs	330	220
Contact Parts	AISI 316L stainless steel (1.4404)		
Non-Contact Parts	AISI 304 stainless steel (1.4301)		
Country of Design	United Kingdom		
Country of Manufacture	United Kingdom		

* Note: based upon tests with size ‘3’ Posilok capsules and sizes #5-0 Capsugel capsules

Typical Applications

Loading Empty Capsules into Encapsulation Machine



Transferring Capsules After Filling

Sack Tip Stations and Feed Bins

Technical Overview

The Hanningfield Sack Tip Station is a simple method for the emptying of sacks, bags etc. while controlling the dust emissions caused during unloading. Operators lift the bags onto the shelf of the station, pierce the bags and empty the contents into the inlet of the downstream conveyor system or alternative transfer method (e.g. screw conveyors, bucket elevators). The sack-tip station incorporates a dust extraction hood to protect the operator and the process environment during emptying.

Hanningfield can also supply feed bins for the intermediate storage of powder prior to downstream processing (e.g. vacuum transfer or gravity discharge).

Features:

- Stainless steel construction (with 316L contact parts)
- Custom designs available to suit any application

Benefits:

- Enables fast, safe and easy loading of downstream process (gravity or vacuum)
- Sack tip stations can be supplied with integrated dust extraction (filter / fan)
- Feed bins can include agitator for bridge prevention

Product Images

Lifting and Blending

Hanningfield offer a wide range of systems for the lifting, blending and handling of containers and drums.

We can also offer through-floor-feeders and IBC wash stations for a complete process solution.

22 Hoists

24 Blenders

25 Drum Tippers

26 Drum Tumblers

27 IBCs

28 Stainless Steel Drums

Hoists

Technical Overview

Hanningfield Uni-Hoist lift systems are designed for the handling of containers such as Intermediate Bulk Containers (IBCs), drums, containers and bins. The lift column can also be used to manoeuvre process machinery such as vacuum conveyors, mills, lump-breakers etc.

With hundreds of installations worldwide, Hanningfield's stainless steel lift columns are engineered for safe and repeatable operation in hygienic environments. The hoist lift systems utilise either a lead-screw or chain lifting mechanism, with fail-safe features to prevent the load slipping in case of malfunction.

Hoists can be powered by electric, pneumatic or manual hand-operation. Meanwhile, the hoists can also be stationary (mounted to floor, wall, floor-to-ceiling etc.) or mobile on a trolley with castors.

The Uni-Hoist can be modified to accommodate any load type (lifting forks, clamp arm, squeeze cone, platform, hook etc.). As standard, hoists are manufactured from 304 stainless steel (150 grit) and are designed for use in hygienic GMP environments, with smooth surfaces and all aesthetic welds polished. All lift systems can be supplied with full validation documentation (FS/DS, FAT, SAT, IQ/OQ) and 3.1 mill certificates to EN10204 if required.

Features:

- Stainless steel construction for use in sanitary applications
- Various power options to suit site environment (manual, electric, pneumatic)
- ATEX (ex-proof) versions available

Benefits:

- Engineered for safe and repeatable operation in hygienic environments
- Eliminate operator strain
- 'Raise, Lower, Rotate, Invert, Dock' at the push of a button
- Versatile designs for handling drums, IBCs, machines - almost anything can be lifted

Product Images

Data Table

Criteria	HES	HEM	HMS	HMM	HPS	HPM
Light Duty (SWL ≤ 250kgs)	✔	✔	✔	✔	✔	✔
Medium Duty (SWL ≤ 750kgs)	✔	✖	✖	✖	✖	✖
Heavy Duty (SWL ≤ 2000kgs)	✔	✖	✖	✖	✖	✖
Raise and Lower (of Load)	✔	✔	✔	✔	✔	✔
Inversion (of Load)	✔	✔	✔	✔	✔	✔
Rotation (of Base)	✔	✔	✔	✖	✔	✖
Power Supply	Electric (3-phase)		None / Manual		Compressed Air	
Material of Construction	AISI 304 stainless steel (1.4301)					
Country of Design	United Kingdom					
Country of Manufacture	United Kingdom					

Typical Applications

Lift, Slew and Dock IBC above Tablet Press

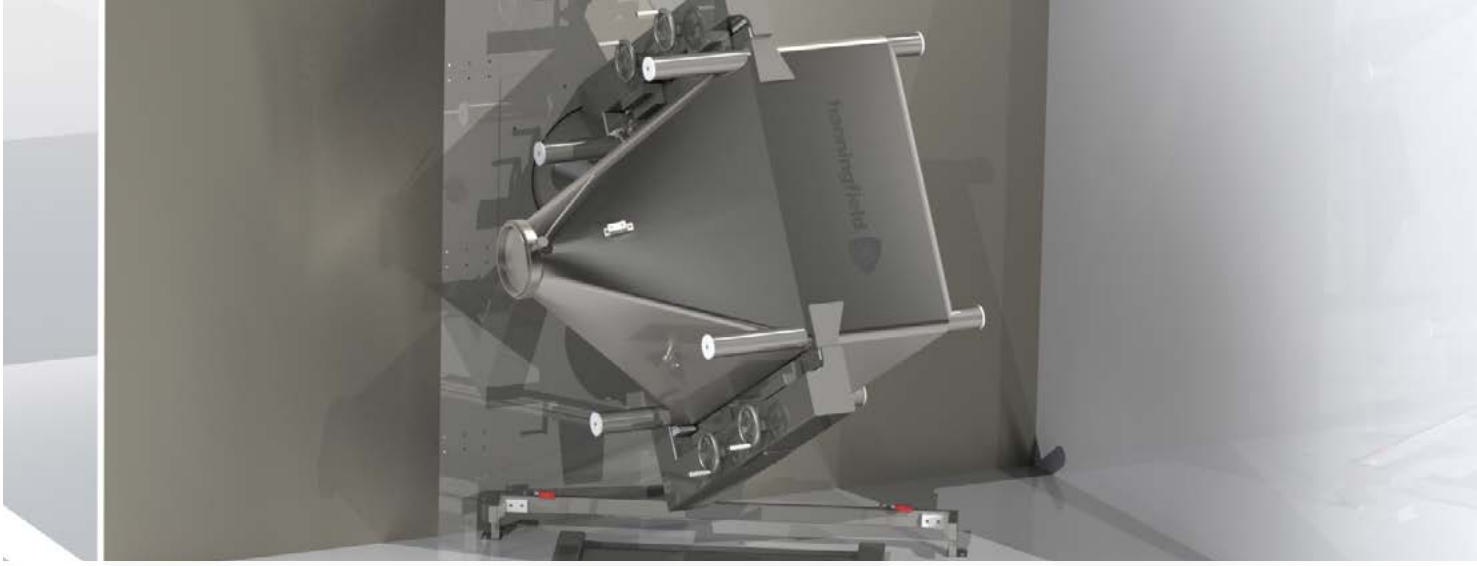
Drum Lift and Invert

Raise and Lower of Mixer

Mobile Vessel Lifter

Drum Tipper for Isolator Docking

Duplex Hoist for Fast IBC Changeover



Blenders

Technical Overview

The Hanningfield Uni-Blend Bin Blenders are designed for the gentle tumbling of IBCs and drums, helping to create uniform batches. The blender is available in various sizes, meaning we have a solution for every batch size, from small volumes (5L) up to large production runs (2000L).

The bin blenders are manufactured in stainless steel and designed to conform to the GMP requirements of the pharmaceutical, food and allied industries. They are available in various executions including hoist-type, through-the-wall, fixed base and mobile.

All equipment can be supplied with full validation documentation (FS/DS, FAT, SAT, IQ/OQ) and 3.1 mill certificates to EN10204 if required.

Features:

- Stainless steel construction for use in sanitary applications
- Suitable for various container sizes, up to 2000 litres
- Can be supplied as pedestal (stand-alone), through-the-wall or post hoist mounted

Benefits:

- Maximise productivity with ‘Blend-in-the-Bin’, enabling immediate batch switchover without washdown
- Charging and discharging can be undertaken offline, minimising downtime
- For full compliance, controls can be supplied to meet 21 CFR Part 11

Product Images

Drum Tippers

Technical Overview

Hanningfield Drum Tippers are perfect for the manoeuvring and positioning of drums. Whether docking or simply inverting, the drum tipper will automate the process delivering a safe, accurate and repeatable action. The unit can be configured to adopt any drum size or type and can be supplied with outlet chute or cone/valve if required.

Drum tippers are manufactured in stainless steel and designed to conform to the GMP requirements of the pharmaceutical, food and allied industries. They are available in various executions including fixed base or mobile trolley.

All equipment can be supplied with full validation documentation (FS/DS, FAT, SAT, IQ/OQ) and 3.1 mill certificates to EN10204 if required.

Features:

- Stainless steel construction for use in sanitary applications
- Multi-position tipping heights available for process flexibility

Benefits:

- Eliminate manual processes and reduce operator strain
- Repeatable positioning for high integrity applications (e.g. docking to inflatable seal on isolator)

Product Images

Drum Tumblers

Technical Overview

Hanningfield's Drum Tumblers are designed for the gentle tumbling of drums to create uniform batches. The tumblers are suitable for almost any drum size (e.g. 50, 100, 200 litres), with a typical maximum SWL of 200kgs and variable RPM. All batch data can be recorded (e.g. start time, duration, RPM) and, if required, can incorporate a printer or compliance to 21 CFR Part 11. The drum tumblers are typically supplied as stand-alone pedestal units.

The drum tumblers are manufactured in stainless steel and designed to conform to the GMP requirements of the pharmaceutical, food and allied industries.

All equipment can be supplied with full validation documentation (FS/DS, FAT, SAT, IQ/OQ) and 3.1 mill certificates to EN10204 if required.

Features:

- Stainless steel construction for use in sanitary applications
- Suitable for various container sizes, with maximum SWL of 200kgs and variable RPM
- Portable loading cart available

Benefits:

- Maximise productivity with immediate batch switchover (by changing drums) without washdown
- For full compliance, controls can be supplied to meet 21 CFR Part 11

Product Images

IBCs

Technical Overview

Hanningfield is able to supply stainless steel Intermediate Bulk Containers (IBCs) for use in the pharmaceutical, food and allied industries. The containers are designed for the safe and contained transport, storage and handling of material. Typically, the IBCs are supplied with capacity up to 2000 litres but can be custom made to suit any process requirement.

For the gentle handling of tablets, Hanningfield offer a specifically designed Tablet IBC. The design uses a shallow body angle and a flexible-vane outlet valve to minimise risk of tablet breakage and damage. The IBC can be supplied with an outlet chute for transferring the tablets into a coater.

The IBCs can be executed in various designs, including castors for mobility, corner stacking profile and lifting loops for handling via forklift or post hoist.

Features:

- Stainless steel construction with 316L contact parts and FDA compliant seals
- Various capacities and shapes available
- Custom design available (or ability to replicate existing design)

Benefits:

- Safe and contained method for storing and transporting powder
- Highly flexible, with various methods for dust-tight charging and discharging

Product Images

Stainless Steel Drums

Technical Overview

Hanningfield supplies a wide range of stainless steel drums for the contained, convenient and reusable storage of high-value powders. Drums are available in various capacities from 5 litres up to 200 litres (larger sizes available on request).

The drums are designed for hygienic applications with a smooth, crevice-free construction. All drums are made from stainless steel, with a FDA compliant lid seal. To minimise storage footprint, the drums are suitable for stacking.

Features:

- Hygienic design and construction
- 5L to 200L sizes (larger sizes available on request)
- Easy clean design
- Quick release clamp-band
- 180 grit satin polished finish
- Light and durable construction
- Supplied with side handles
- Crevice-free interior
- Optional: add etching detail to your requirements

Product Images

Capture and Control

In modern processing, the capture and control of powder is a key challenge.

Hanningfield offer cyclones for the contained capture of waste processing powder and silicone accessories for flexible contained powder transfer.

We can also provide custom containment solutions to help overcome niche problems.

30 Cyclones

32 Hygienic Valves

34 Silicone Dust Caps

35 Silicone Connector Sleeves

Cyclones

Technical Overview

The Hanningfield Uni-Dust cyclone is specifically designed for the recovery of waste powder from pharmaceutical OSD processes such as compression and encapsulation, typically capturing between 90 – 99.9% of waste powder. We have successfully installed our cyclone to Fette, Manesty, Korsch, Zanasi, Bosch, Kilian and numerous other process machines. Where required, the cyclone can incorporate a manifold for connection to ancillary equipment such as tablet dedusters or capsule polishers.

With no filters and no moving parts, the Uni-Dust features a sanitary GMP stainless steel construction, assembled using only Tri-Clamps for fast and easy dismantling.

The Uni-Dust cyclone is proven to be equally effective in numerous other applications including sachet filling, spray drying, inhalation and any other process where excess dust is extracted. The captured waste material can be used for batch loss reconciliation, or even reintroduced to the process (where protocol permits).

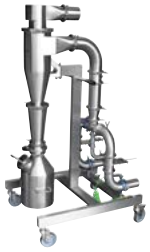
Features:

- Specifically designed to be compatible with the standard airflows of compression and encapsulation machines
- GMP stainless steel construction
- Designed to be mounted inside the process room for guaranteeing integrity of captured material
- Cyclone can be retro-fitted to existing processes
- Optional manifold for collecting waste powder from deduster or polishing machine

Benefits:

- Prevents blinding and replacement of expensive filters in central dust extraction system or vacuum cleaner, with associated environmental benefits
- High efficiency design, typically capturing 90 - 99.9%
- Almost zero maintenance costs, as cyclone has no moving parts and no filters
- Helps pharmaceutical manufactures comply with FDA guidelines on batch reconciliation and yields
- Where protocol permits, recovered powder can be re-worked and re-introduced, minimising material loss

Product Images



Data Table

Criteria	Unit	Type 5	Type 10	Type 20	Type 30	Type 40	Type 50	Type 60
Airflow Range	m3/hr	100 – 150	150 – 250	250 – 300	300 – 400	400 – 600	600 – 800	800 – 1200
	CFM	59 – 88	88 – 147	147 – 177	177 – 235	235 – 350	350 – 470	470 – 700
Cyclone Body Dia.	mm	101.6	139.7	152.4	168.2	203.2	254	304.8
	in	4” T/C	5½” T/C	6” T/C	6⅝” T/C	8” T/C	10” T/C	12” T/C
Inlet / Outlet Pipe Dia.	mm	50.8	63.5	63.5	76.2	101.6	127	139.7
	in	2” T/C	2½” T/C	2½” T/C	3” T/C	4” T/C	5” T/C	5½” T/C
Product Discharge Dia.	mm	63.5	101.6	101.6	101.6	139.7	168.2	203.2
	in	2½” T/C	4” T/C	4” T/C	4” T/C	5½” T/C	6⅝” T/C	8” T/C
Approximate Weight	kgs	12	18	22	34	40	52	68
	lbs	26	40	50	75	90	115	150
Typical Noise Level	dB	0 dB (no moving parts / no mechanical noise generated)						
Contact Parts	AISI 316L stainless steel (1.4404)							
Non-Contact Parts	AISI 304 stainless steel (1.4301)							
Country of Design	United Kingdom							
Country of Manufacture	United Kingdom							

Typical Applications

Dust Collection from Tablet Press

Dust Collection from Capsule Filling Machine

Hygienic Valves

Valves are crucial to controlling the flow of material between equipment and containing material before it is later discharged. Selecting the correct valve is important to ensure the proper functioning of your process and delivery of the material as required for your application.

The Sterivalves range is designed to give the customer a wide variety of choice, where a standard butterfly or ball valve is not the right fit. All valves are available with 3.1 mill certificates, FDA certificates and ATEX certification.

Butterfly Valve

Pharmaceutical grade butterfly valves, used to intercept material flow on containers, hoppers and similar equipment.

Materials

- Body and butterfly in stainless steel AISI 316L (EN 1.4404)
- Gasket available in various FDA compliant materials

Diameters Available

- DN 80, DN 100, DN 150, DN 200, DN 250, DN 300, DN 350, DN 400

Actuation

- Manual lever or pneumatic actuator

Flexible Butterfly Valve

Instead of a stainless steel vane, the Flexivalve is fitted with a silicone vane to prevent breakage and damage to sensitive materials.

Materials

- Body in stainless steel AISI 316L (EN 1.4404)
- Butterfly and gasket available in various FDA compliant materials

Diameters Available

- DN 80, DN 100, DN 150, DN 200, DN 250

Actuation

- Manual lever or pneumatic actuator

Rotary Valve (Light-Duty)

The Rotovalve Light is a pharmaceutical grade rotary dosing valve, designed to feed and control flow of material into downstream equipment.

Materials

- Body and rotor in stainless steel AISI 316L (EN 1.4404)
- Gasket available in various FDA compliant materials

Diameters Available

- DN 80, DN 100, DN 150, DN 200, DN 250, DN 300, DN 350, DN 400

Actuation

- Manual lever or pneumatic actuator

Rotary Dosing Valve

The Rotodoser uses two independently working rotors allowing the operator to achieve a high degree of accuracy when dosing material.

Materials

- Body in stainless steel AISI 316L (EN 1.4404)
- Gasket available in various FDA compliant materials

Diameters Available

- DN 100, DN 150, DN 200, DN 250, DN 300

Actuation

- Pneumatic actuator and electric motor

Rotary Valve Plus

The Rotovalve Plus is designed for precisely feeding and dosing high volumes of material, offering more control than the Rotovalve Light. This versatile valve is easily cleaned (CIP and SIP) and dismounted.

Materials

- Body and rotor in stainless steel AISI 316L (EN 1.4404)
- Gasket available in silicone and EPDM

Diameters Available

- DN 100, DN 150, DN 200

Actuation

- Electric, pneumatic or brushless gear motor

Rotary Crushing Valve

The Rotocrusher is designed to clamp onto equipment to size reduce material, acting as a pre-breaker or stand-alone lump-breaker and offering a maximum flow rate of around 3,000kgs/hr.

Materials

- Body in stainless steel AISI 316L (EN 1.4404)
- Gasket available in various FDA compliant materials

Diameters Available

- DN 100, DN 150, DN 200, DN 250, DN 300

Actuation

- Pneumatic actuator and electric motor

Silicone Dust Caps

Technical Overview

The Hanningfield Uni-Cap is a flexible silicone rubber seal which provides a cost-effective method for the dust-tight transfer or containment of powders.

Compatible with our range of stainless steel mounting rings, the Uni-Cap is easily fitted or retrofitted to any process.

The Uni-Cap+ is a superior range of fully transparent silicone dust caps offering excellent process visibility. Made from platinum cured silicone, the Uni-Cap+ is classified as USP Class VI, TSE/BSE free, ADI free and phthalates free.

Product Images

Data Table

	Size	Diameter		Height	Wall Thickness	Material Hardness	Part Number	Specification
		mm	In	mm	mm	shore		
Uni-Cap	2.5”	60	2.5	33	8	60	HPN005302	**Material** > Silicone **Compliance** > FDA 21 CFR 117.2600 **Features** > Translucent
	5”	127	5	35	10	60	HPN005304	
	8”	200	8	40	10	60	HPN005306	
	10”	250	10	36	10	60	HPN005311	
	12”	315	12	32	9.5	60	HPN005314	
	16”	400	16	32	9.5	60	HPN005317	
Uni-Cap+	6 T/C	152.4	6	32	12	70, A	HPN026941	**Material** > Silicone (Platinum Cured) **Compliance** > FDA 21 CFR 117.2600 > USP Class VI **Features** > Translucent > Optional Batch ID
	8 T/C	203.2	8	32	10	70, A	HPN030172	
	305mm	305	12	32	11	70, A	HPN025132	
	460mm	460	18.1	32	10.5	70, A	HPN025126	

Silicone Connector Sleeves

Technical Overview

The Hanningfield Uni-Connect range of silicone compensator sleeves are designed to provide quick and hygienic connection for dust tight powder transfer between interfaces, which can easily compensate for misalignment between process machines.

Available in 2″, 4″, 6″, 8″, 10″ and 12″, the Uni-Connect is designed to be compatible with a standard Tri-Clover profile.

Product Images

Data Table

Criteria	Unit	2″	4″	6″	8″	10″	12″
Diameter	in	2	4	6	8	10″	12
Length	mm	40	40	50	50m	60	70
Wall Thickness	mm	1.6	2.4	2.0	2.0	2.0	2.0
Material Hardness	shore	70	70	70	70	70	70
Min. Operating Temperature	°C	-20°					
	°F	-50°					
Max. Operating Temperature	°C	+140°					
	°F	+289°					
Part Number		HPN017208	HPN007324	HPN007323	HPN007321	HPN007327	HPN007325
Standard Material	Translucent Silicone (FDA CFR 177.2600)						

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