

CLYDE
MATERIALS
HANDLING

Materials Handling
Solutions for the
Food & Pharmaceutical
Industries



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CLYDE MATERIALS HANDLING

In 1999, increasing industry globalisation brought together four respected materials handling companies to found Clyde Materials Handling Ltd. The aim - to become the premier materials handling company in the world, and a solutions provider to specialist industries.

Clyde has already established a worldwide reputation for materials handling excellence based on a range of technologies and applications experience gained across a wide range of process industries. Market leading technologies and products include pneumatic conveying, weighing, packing, palletising, industrial vacuum cleaning and ancillary materials handling equipment.

Clyde is a global materials handling solutions provider - offering locally manufactured equipment through joint ventures, and a level of service ranging from equipment supply only, through to turnkey solutions inclusive of design, supply and installation, delivered on time and on budget anywhere in the world.

Global Provider of Total Hygienic Materials Handling Solutions



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Established Business

Clyde Materials handling expertise is founded on over 250 years combined materials handling experience. This includes:

- All forms of pneumatic conveying for handling the widest range of dry bulk materials over distances from 1 metre to over 1 kilometre.
- Process weighing, packing and palletising machinery.
- Centralised and mobile industrial vacuum cleaning systems.

Plus specialist experience in process engineering for the food and pharmaceutical industries worldwide.

Customer Focus

Clyde has 5 industry specific sales teams, each founded with the aim of identifying customer requirements and delivering customised materials handling solutions to specifically suit the application.

The food & pharmaceutical team specialises in providing hygienic process solutions to these industries, with the emphasis on quality, hygiene and proven systems. Its prime objective is to become a trusted process partner - not just supplying materials handling equipment, but working with customers and providing professional process engineering advice on existing and new plant requirements.



Industry Focus

Central to any food & pharmaceutical materials handling application is the 'hygiene factor'. Clyde has a range of stainless steel, modular construction, easy-clean systems to ensure ingredients and products remain contamination free. Furthermore, equipment is easy to clean and can be quickly adapted to changing process needs. Whatever your specification, Clyde can take care of it.

Clyde Capability

The food & pharmaceutical team is dedicated to the design & supply of innovative, hygienic process solutions for:

- storage & distribution
- conveying
- sieving & screening
- dosing
- size reduction
- mixing and blending
- packaging

System design, installation and commissioning can be undertaken on a global scale.

Proven Systems

Clyde offers a broad range of proven process technology and proprietary equipment, all designed to maximise operating efficiency and minimise cost in use:

- Pneumatic conveying (lean phase, dense phase & vacuum systems)
- Bagging & weighing equipment
- Industrial vacuum cleaning (centralised, fixed & mobile systems)
- Valves for controlling the flow of bulk materials

Clyde provides systems that meet with the most stringent requirements, including:

- contamination free transfer of materials
- stainless steel construction for equipment/contact parts
- easy clean surfaces, crack & crevice free
- modular construction - easy to dismantle and reassemble
- flexible to match process needs
- validation information for equipment origin

Clyde is committed to providing its customers with the best possible process solutions and this extends to nominating other equipment suppliers where it is felt that such equipment will provide the most effective option.

CLYDE MATERIALS HANDLING



Total Project Management

Clyde takes the management of the project just as seriously as the engineered solution. From initial enquiry right through to the commissioning of the finished installation, Clyde personnel will be there to answer any question or queries you may have and ensure that all the application objectives are met on time and on budget. Clyde is more than just an equipment supplier. It is a trusted business partner, able to provide advice, solutions and action. Remote communications are enhanced through the availability of video conferencing.

**Customised Solutions/
Project Execution**

Clyde brings together the collective benefits of advanced technology products, engineering know-how and a wealth of project management experience to provide a level of service and system performance that is second to none.

Quality Assurance

Clyde operates to the most stringent international quality standards, being accredited to EN ISO 9001, and enjoys a worldwide reputation for its uncompromising commitment to quality assurance. In the pharmaceutical industry, validation of systems and their components is key. Clyde is able to provide validation information and documentation covering the sourcing of all materials and equipment supplied, thereby easing the burden of re-validating entire processes following the inclusion of new process equipment.

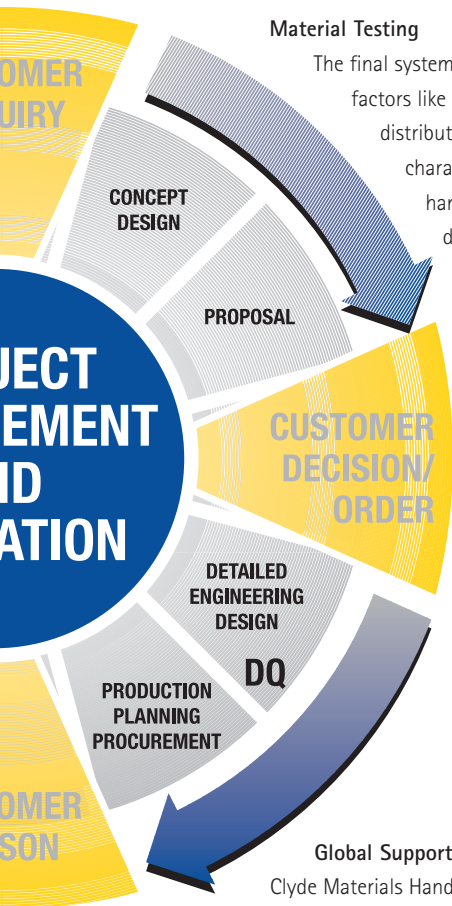


“ Understanding the customer’s needs ”

Proven products

All Clyde systems are built utilising a wealth of experience and process knowledge that is unique within the industry. From bulk raw material handling and intake, through to batching, processing and the finished product, Clyde will be there, delivering the best, most cost effective solution to the specific application or problem.

Innovative Customised Solutions



Material Testing

The final system specification will often depend on factors like particle shape and size, distribution, permeability and air retention characteristics of the materials being handled. Clyde's test and research department is recognised as one of the best in Europe. Using an array of pneumatic conveying and weighing & bagging systems, actual site conditions can be replicated and system suitability to the client's own products/materials thoroughly assessed.

“ Total Project Capability ”

Global Support

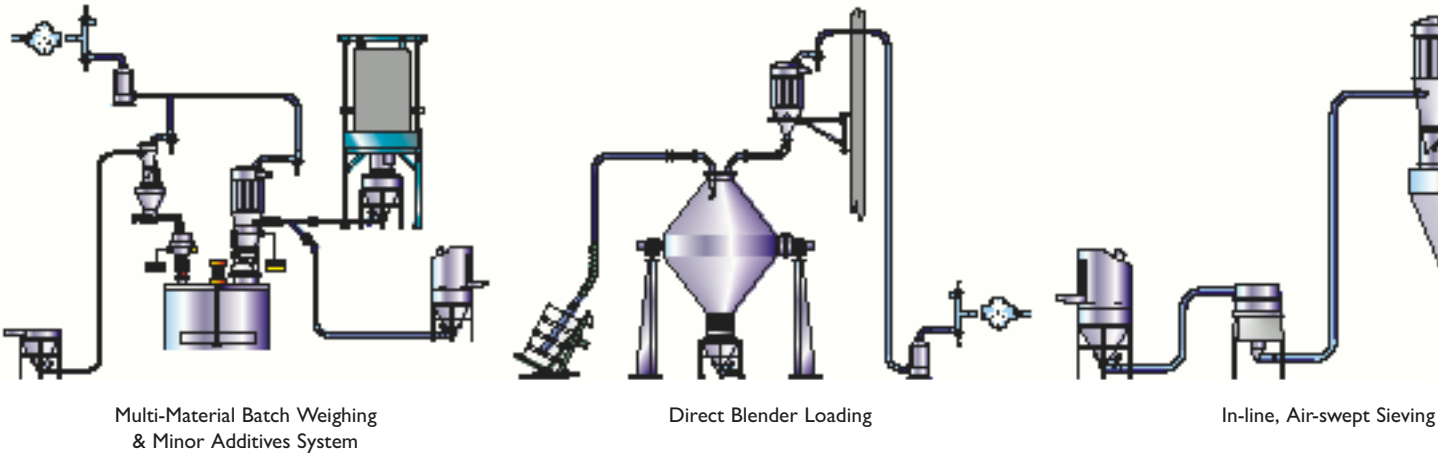
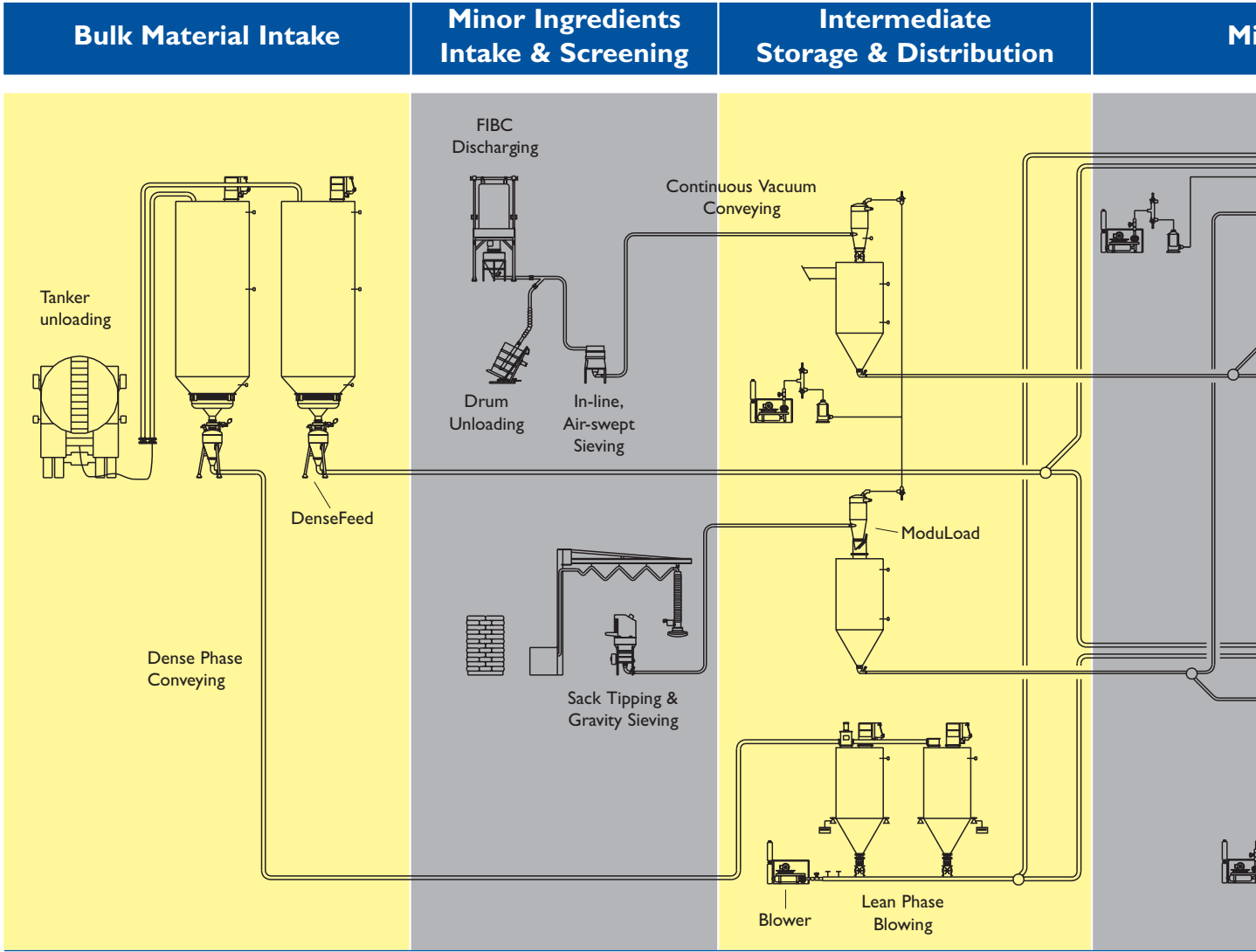
Clyde Materials Handling practises a strategy of sourcing in the customer's locality wherever possible by developing partnerships with local suppliers thereby eliminating unnecessary consignment costs.

The Clyde group has overseas offices in Belgium, Brazil, China, Estonia, France, Germany, Hungary, India, Poland, Russia, Singapore, South Africa, Spain and the United States. These, together with a network of agents throughout the world, enable close contact with both customers and suppliers to be developed and a high level of service maintained long after the project has been completed.

Clyde support includes a rapid spare parts service and a team of engineers able to carry out service and repairs anywhere in the world. Maintenance contracts can also be provided to cover Clyde systems and other associated equipment.



“ Full compliance with industry standards worldwide ”



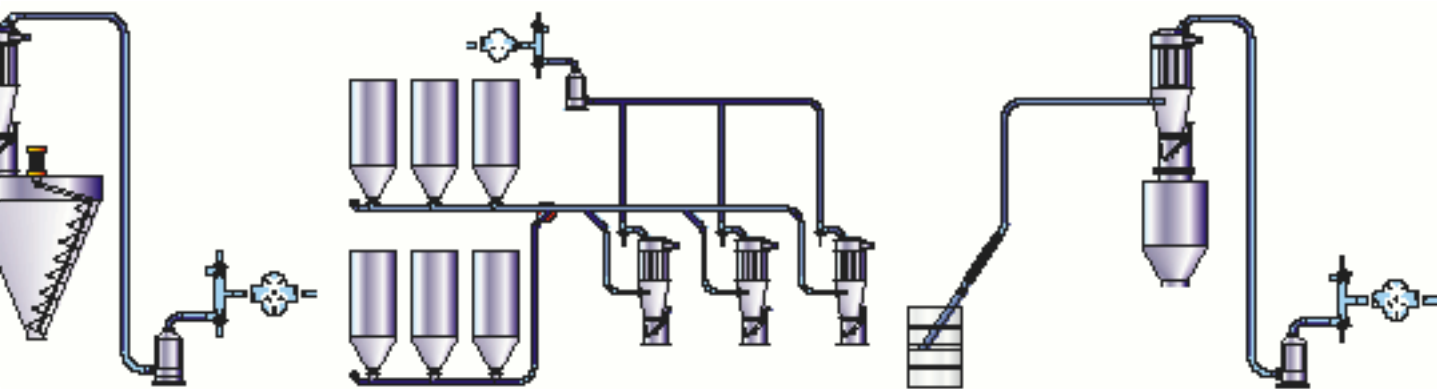
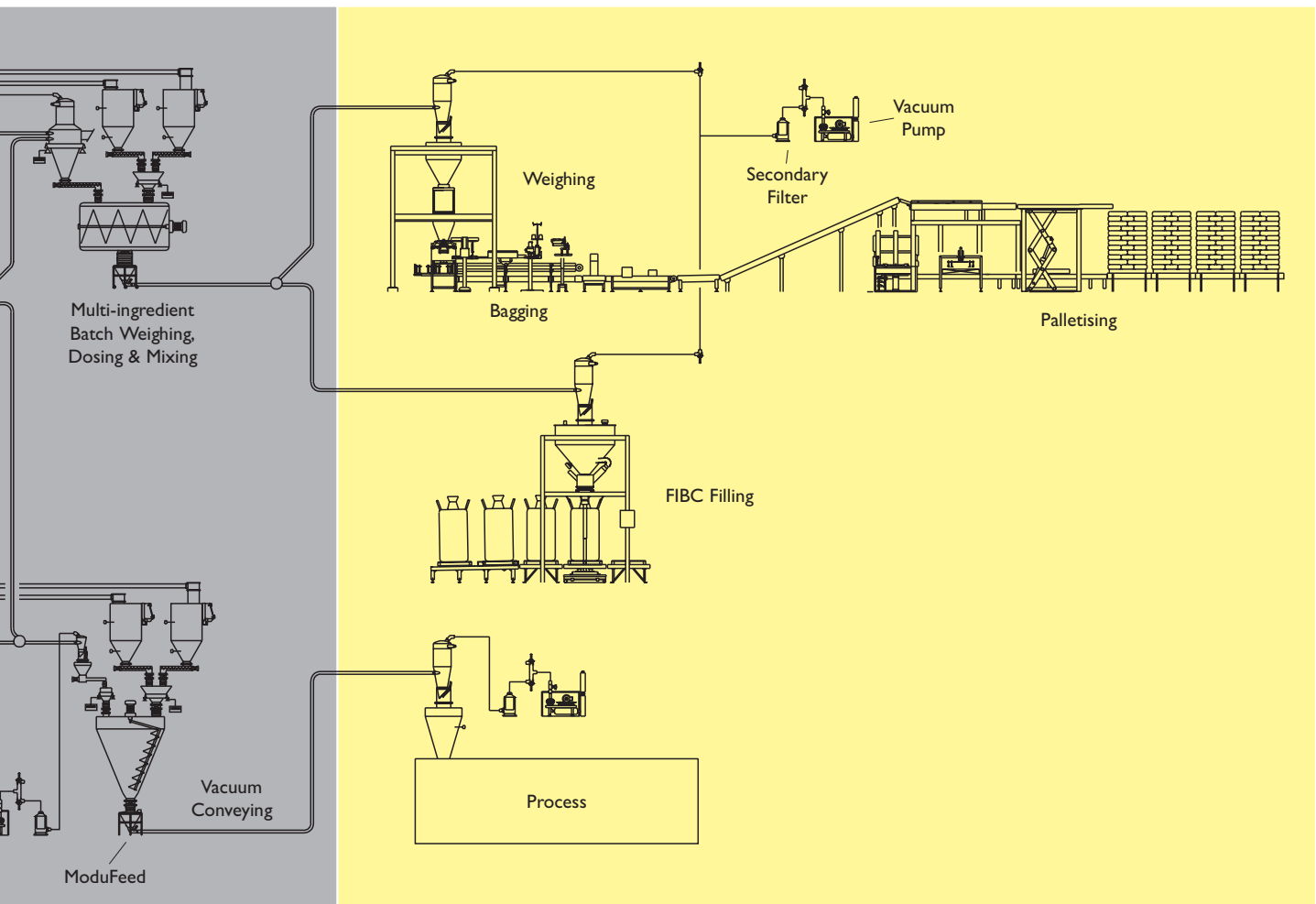
Total Process Capability



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Mixing & Dosing

Process & Packaging



Vacuum, Lean Phase Conveying

eight



Vacuum Conveying

The Clyde Materials Handling range of vacuum conveying equipment is used throughout the food and pharmaceutical industries to handle both raw materials and finished products.

ModuFeed Process Feeders

For an automated pick-up device for a vacuum conveying system this versatile range of modular construction, self-emptying feeders answers both continuous and batch processing needs. They can accommodate both manual and automatic methods of feeding. Fluidising cone and soft liner options enable them to cope equally well with cohesive materials and friable products.

ModuLoad Process Loaders

ModuLoad does away with costly, bespoke process loading systems. Instead, a standard design is offered in 10, 35, 80 and 150 litre sizes. The additional choice of 7 and 45 litre tube hoppers, a 2 litre mini-hopper or a custom designed special hopper means they answer virtually all process loading requirements throughout the food and pharmaceutical sectors.

With its fluidisation cone, soft liner option and a range of filters including static, filter shake, multi-sock, reverse jet, cartridge and now stainless steel, ModuLoad provides controlled and accurate transfer of fine, dry or cohesive powders through to granulates and finished tablets.



System input and output is generally via Clyde's 'ModuFeed' and 'ModuLoad' process hoppers. Both feature modular construction with dust proof seals and quick release clamps to simplify cleaning or autoclaving. Complete units can be stripped-down in minutes and materials and finishes are available to suit the needs of both food and pharmaceutical users.

Modular construction also means changing process needs can be readily accommodated - simply replace the relevant standard components from the wide ranges available.



Dense and Pulse Phase Conveying



Stainless steel filters

Stainless Steel Filters

This addition to the Clyde ModuLoad range of filter options is of particular relevance where it is necessary to satisfy strict QA and validation procedures.

Clyde's stainless steel filter provides:

- Full validation/traceability for components of manufacture.
- Suitable for CIP/SIP high pressure/temperature cleaning.
- Modular designs.
- Retrofits to existing range of ModuLoad units.
- Long service life.

Support Pole for Process Loaders

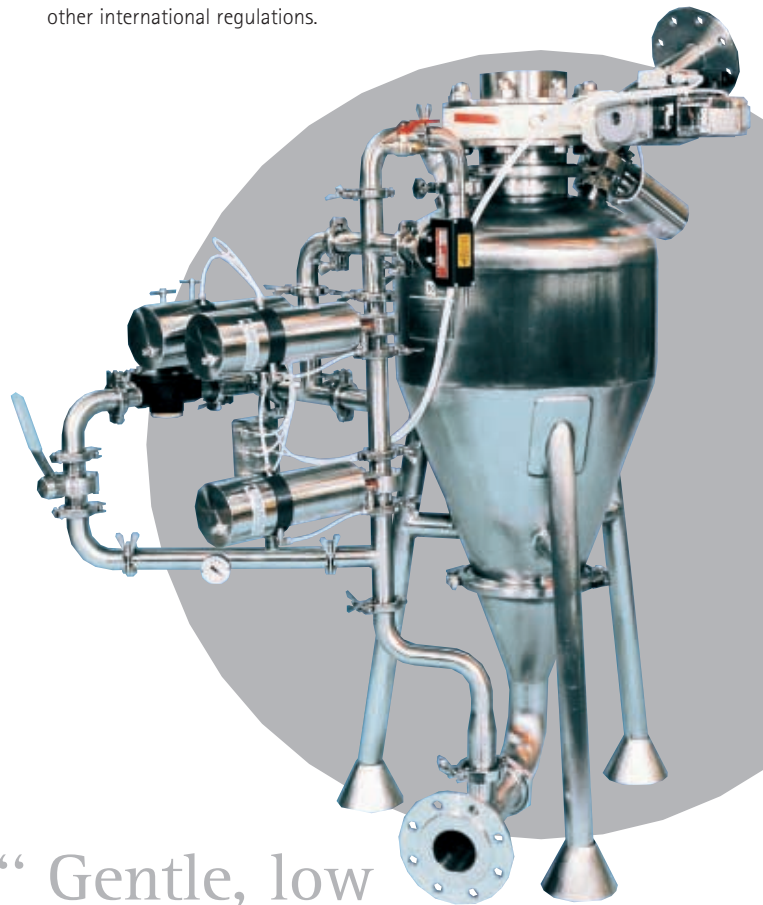
The Support Pole is designed to meet the demands of food and pharmaceutical companies for a safe, clean and easy method of handling hopper loaders. The Support Pole is manufactured from stainless steel with optional finishes. It enables a ModuLoad hopper loader weighing up to 500kg to be pneumatically raised or lowered through a 3000mm lift and rotated through 270° to ease cleaning or maintenance.

DenseFeed

Based around the hugely successful Macawber Denseveyor technology the DenseFeed pneumatic conveying system utilises all the proven benefits of dense phase conveying - simplicity, reliability and flexibility. At the same time it answers the specific needs of the food and pharmaceutical sectors for a reliable product transfer system capable of operating over distances of up to 250m.

DenseFeed provides the economic solution to high throughput, long distance conveying of a wide range of powders and granular materials. Gentle low velocity conveying ensures minimal breakage of friable products.

The system also complies with all relevant Environmental, Health and Safety regulations. It is dust-free, less harmful to the environment than traditional conveying methods and helps to ensure that material transfer complies with stringent COSHH and other international regulations.



“ Gentle, low velocity, dense phase conveying ”

IBC Handling

Weighing / Bagging

ten



EasiFlow

The EasiFlow discharger from Clyde Materials Handling has been designed to provide a reliable, cost effective method of discharging non free-flowing materials from flexible intermediate bulk containers (FIBCs).

Advantages include:

- Fast, reliable operation even with difficult materials
- A dust free environment
- Suitable for all FIBCs
- Compact dimensions
- Choice of fixed or mobile versions available
- Easy to install and operate



Clyde's 'Richard Simon' range is founded on over 100 years of experience gained since the brand was first established in the 1870s.

Bagging & Weighing

With matched microprocessor controllers, this equipment offers cost-effective, high performance handling and processing over a wide range of materials, from a few kilogrammes to several thousand tonnes per hour.

Weighfilling of Open Mouth Bags, Valve Bags and IBCs

Nett and gross weighers from 5kg to 100kg, suitable for hygienic weighing of diverse products in conjunction with a range of bag types.

Bulk Throughput Weighing

Provide highly accurate, automatic bulk intake, outloading and target totalisation for a wide range of granular products.

IBC Weighfilling

Provide accurate, high speed filling of FIBCs, Octabins, drums and cartons. Options include single or multi-dump nett weighers and gross weighing platform scale systems.

Bag Palletisers

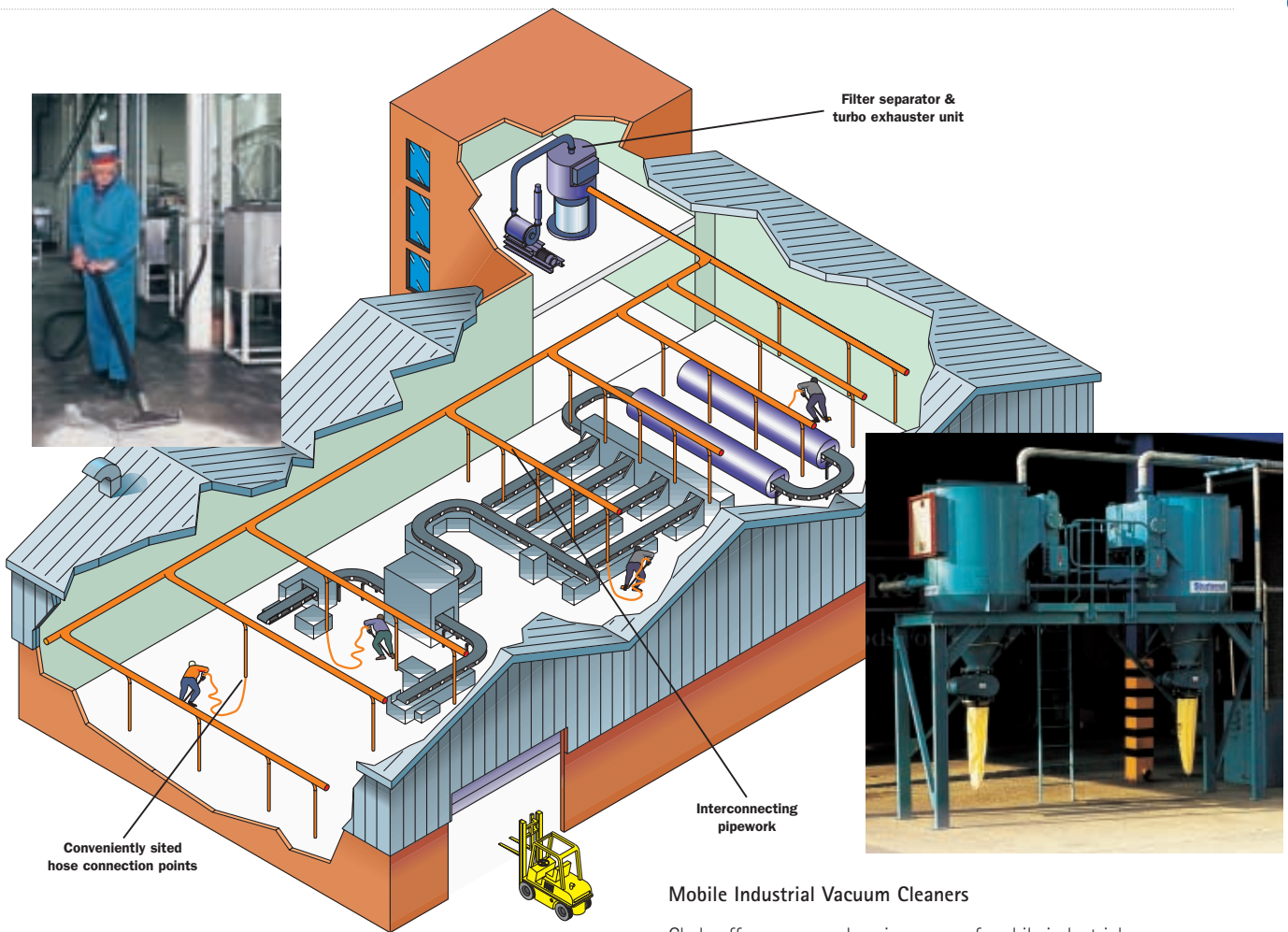
Automatically form the layers, count the bags, palletise, dispense empty pallets and index full pallet loads.

Continuous Weighing

- Fixed and variable speed weigh belt feeders
- Loss in weight feeders
- Loss of weight feeders
- Fixed and variable speed extractors
- Multi - and single - idler belt weighers



Vacuum Cleaning.



Centralised Vacuum Cleaning

Clyde experience goes back to the turn of the century when 'Sturtevant' originated the principle of turbine vacuum cleaning.

Now, Sturtevant is part of Clyde Materials Handling and its Centralised Vacuum Cleaning (CVC) systems are in daily use throughout the world.

CVC systems are the most effective solution where quantities of dust or other materials must be regularly removed from the workplace, from one or more floor levels, to a central point on a continuous basis or where the requirements for hygiene or safety preclude the use of portable cleaners.

A typical centralised system will include hose connection points in key areas throughout the building, with interconnecting pipework to couple them to a filter separator and turbo exhauster unit.

Clyde centralised systems can be designed into new buildings or installed in existing buildings. Whichever the option, Clyde provides a comprehensive service including advice, design, installation, commissioning and after sales service.

Mobile Industrial Vacuum Cleaners

Clyde offers a comprehensive range of mobile industrial vacuum cleaners including single phase and three phase electrically powered versions, any of which can be customised to suit the individual application. Applications include:

- Handling solids or liquids
- Handling toxic and hazardous materials
- Operation in hazardous environments
- Models for toxic and hazardous materials
- Available with electric, petrol, air and propane drives



Food & Pharmaceutical Materials Handling Solutions



Clyde Materials Handling provides materials handling solutions to the food, pharmaceutical, power, metals, minerals, chemical, agriculture, aggregates, ports and petrochemical industries worldwide.

Clyde's market leading technologies and products include pneumatic conveying, weighing, packing, palletising, industrial vacuum cleaning and ancillary materials handling equipment.



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