

# Cleeve

**MATERIALS HANDLING LTD.**



Solutions in Material Handling



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# Introduction

Cleeve Materials Handling Ltd was established in 1998 to provide a range of solutions to the industrial market for materials handling projects. The aim of the company was, and still is, to provide the most proficient and economic solutions to issues associated with the bulk storage and handling of powdered and granular products. The areas of interest are purposely kept broad to prevent over specialisation in any particular field which has provided a wealth of expertise gained working on contracts as diverse as Lime handling systems for Water Treatment plants and pneumatic conveying of clay for brick making.

At the same time, we have been able to design and supply a wide range of conveying equipment to suit specific requirements, such as conditioning and cooling screw conveyors, chain conveyors and specialist feeders.

Don Valley Engineering Co. Ltd acquired Cleeve Materials Handling in 2009 to help Don Valley bridge the gap between the heavy engineering commonly associated with Don Valley, in the mining and quarrying industries, and its malting business which requires lighter equipment for the conveying of grain and other cereals. The new link with the Don Valley Engineering Group gives Cleeve Materials Handling financial stability and additional technical support which enables it to expand and develop new products as well as extending its plant designs.

The addition of Cleeve Materials Handling to the Don Valley Engineering Group further broadens the group's activities into areas not previously pursued whilst providing additional opportunities for its machine building and site installation divisions.

Cleeve can design, manufacture, supply, install and commission all aspects of the project from initial contact, through the quotation phase and on to the final handover. Company philosophy is for one point of contact for the client for the duration of the contract phase to ensure continuity.

Cleeve offer their services to a wide range of industries requiring expertise in the handling of bulk powders ranging from:

- Water, Treatment Sewage and Sludge Handling.
- Brick and Plasterboard manufacture plant.
- Energy from Waste to Chemicals and Food.
- Lime, PAC and Soda Ash Dosing equipment.
- Pneumatic Conveying.
- Material Storage.
- Tanker Loading Spouts.
- De-Watering Screens.
- Big bag discharge.
- Material Weighing.
- Volumetric Feeders.

Our aim is to work with the customer to gain knowledge of their requirements so we can provide a fully comprehensive service, building clear communication channels and solid customer relations. Based on this philosophy, we have a large number of repeat customers.

Based in Gloucestershire, we undertake contracts in all areas of the UK and Europe. Outside of Europe, we have provided design and technical support on contracts in the Middle East, South and West Africa and even the far north of Russia. These have often included the provision of manufacturing drawings to enable the larger items to be made in-country to reduce the delivery costs whilst giving our partners a real stake in the contract.

# Quality Policy

## Policy Statement

The management of The DVE Group is totally committed to operating a Quality Management System that satisfies the aims and objectives of BS EN ISO 9001:2008 which is defined in its Quality Manual and Quality Procedures. The Company's stated objectives are to ensure that all plant and equipment supplied is to the highest standard compatible with its duty to meet the needs and expectations of its customers and in compliance with defined statutory obligations and codes of practice.

The Company recognises that the success of this Policy, and of the business, depends upon the active support of all its staff and sub-contractors through its management commitment to provide adequate resources to meet its objectives effectively.

The Company is committed to continuous improvement of the products and services provided to its clients through maintaining awareness of statutory and regulatory requirements, providing adequately trained and competent staff, and through regular reviews of the Quality Policy and Quality Management System.

Don Valley Engineering Company Limited has been assessed and registered by the National Quality Assurance Limited (NQA) against the provisions of:

## BS EN ISO 9001 : 2008



## Environmental Policy

### Environmental Policy Statement

The DVE Group has always maintained a keen awareness of, and carried out its responsibilities with regard to the safety, welfare and care of its employees and the environment.

The company will continue to achieve high standards of operation in all its activities, meeting and where practicable, improving regulatory control or codes of practice.

The DVE Group responsibilities to the environment have been approved and will be monitored by the Board of Directors. They in turn will ensure that all company personnel, especially heads of departments and supervisors, are aware of environmental issues and act accordingly.



# Contact Details

Name: **Cleeve Materials Handling Ltd**

Address: Suite 4, Prospect House  
Bath Road Trading Estate  
Stroud  
Gloucestershire  
GL5 3QF  
England

Tel: +44 (0) 1453 750085

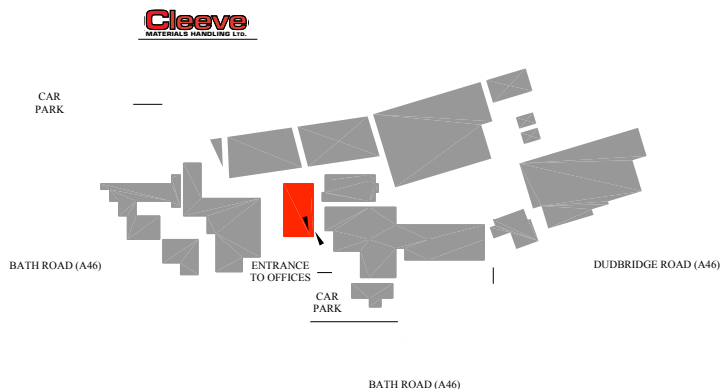
Fax: +44 (0) 1453 766776

Email: [sales@cleevemh.co.uk](mailto:sales@cleevemh.co.uk)

Website: [www.cleevemh.co.uk](http://www.cleevemh.co.uk)

Cleeve are situated in the middle of the Cotswolds on the Bath Road Trading Estate in Stroud, Gloucestershire.

Cleeve's offices at Stroud are approx. 5 miles from Junction 13 of the M5, close to the intersection of the A419 and A46. From Junction 13 of the M5 follow the A419 East towards Stroud and at the intersection with the A46 turn South for approx. 600 yards and the Bath Road Trading Estate is on your right.



**Cleeve**  
MATERIALS HANDLING LTD.



# Contact Details

Name: **Don Valley Engineering Co. Ltd.**

Address: Sandall Stones Road  
Doncaster  
South Yorkshire  
DN3 1QR  
England

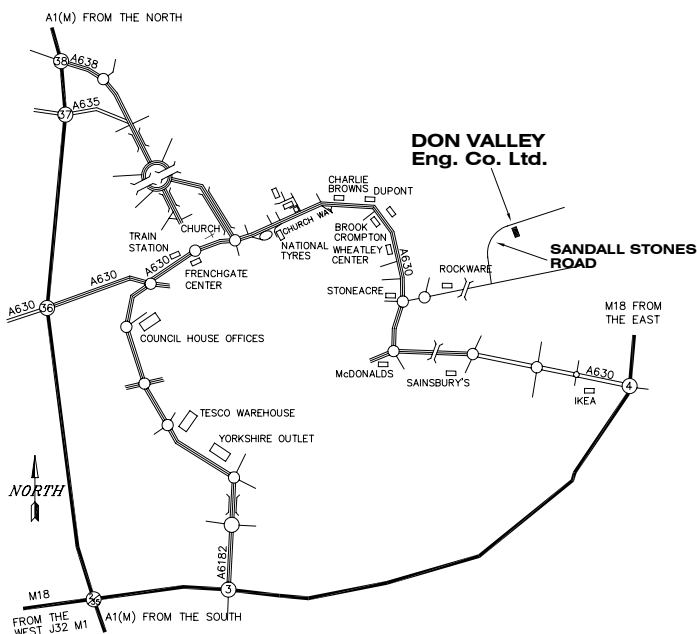
Tel: +44 (0) 1302 881188  
Fax: +44 (0) 1302 881000

Email: [info@donvalleyeng.com](mailto:info@donvalleyeng.com)  
[sales@donvalleyeng.com](mailto:sales@donvalleyeng.com)

Website: [www.donvalleyeng.com](http://www.donvalleyeng.com)

Don Valley Eng. Co. Ltd operational office is based in Doncaster, South Yorkshire, where commercial and site operations are carried out.

Doncaster is well served by the M18 (M1), A1(M) and the A19 roads and is some 15 miles south of the M62 motorway. We are also close to Doncaster Robin Hood and Leeds/Bradford Airports and only three miles away from the East Coast Main Line station.



# Associated Companies

Name: **Don Valley Engineering  
Construction Ltd**

Address: Sandall Stones Road  
Doncaster  
South Yorkshire  
DN3 1QR  
England

Tel: +44 (0) 1302 881188  
Fax: +44 (0) 1302 881000

Email: [sales@donvalleyeng.com](mailto:sales@donvalleyeng.com)

Website: [www.donvalleyeng.com](http://www.donvalleyeng.com)

## **Agencies and Associates**

Name: **Liranco Foreign Trade Ltd**

Address: Harwix Building  
7 Ha' Arad Street  
Ramat Ha' Chayal  
Tel Aviv, 69710  
Israel

Tel: +972 37 662666  
Fax: +972 37 662662

Email: [sales@liranco.com](mailto:sales@liranco.com)

Website: [www.liranco.com](http://www.liranco.com)

Name: **IMMSA**

Address: Calle Cuesta,  
Nº10 2ºCENTRO  
28220 Majadahonda  
Madrid  
Spain

Tel: +34 91 634 7101  
Fax: +34 91 634 7102

Email: [madrid@immsa.net](mailto:madrid@immsa.net)

Website: [www.immsa.net](http://www.immsa.net)

# Screw Conveyors

## Screws

Cleeve Materials Handling (CMH) provides a wide range of screw conveyors and bin dischargers in sizes and materials to meet the client's specific requirements.

Each machine is designed for its intended use, based on the capacity, bulk density, flow characteristics, abrasiveness or temperature, of the material to be handled.

## Cooling Screws

In addition screws can be designed for cooling applications, using either mains or process water, machines having been supplied to handle furnace ash up to 900°C. Sizes range from 200mm to 600mm in diameter and up to 6.0m long. These are designed for a specific duty and are available as single or double machines with either through-flow or flow and return coolant flow.

## Multiple Worm Discharge Screw

Designed for specific applications, for example as a live bottom bin and available in any combination of worms. Typically used with products that have a tendency to bridge and arch such as wood chips, shavings or shredded paper waste. Flighting is available tapered, full diameter, reduced pitch, full flights or ribbon format.

## Mixing Screws

Continuous mixing and conditioning of powders is achieved using single or twin paddle bladed machines. A common application for this type of unit can be the conditioning of fly ash with water to minimize dust emission during disposal. Used as a mixer these machines can provide a coarse blend of dry products.

## Materials of Construction

All screw conveyors and mixers can be manufactured from a variety of materials including mild steel, 304/316 stainless steel, or wear resistant steels such as Abro or Cruesabo and with finishes to suit the site conditions.

All machines are tested in our workshop and supplied with a comprehensive maintenance manual.





# Silo Design & Manufacture

CMH supply a range of silos for the storage of powders and granular products.

The silo cone angle and discharge method is selected to suit the material characteristics. This ranges from a simple circular outlet for free flowing materials to the use of a bin activator for products that require discharge aid.

The outlet can be configured to suit a screw type bin discharger or chain conveyor where control of the discharge rate is required.



## Structure

Where practical, silos are supplied in one piece with the legs attached to the body. For larger silos, bolted steelwork is supplied which can include intermediate working platforms etc.

## Access

All silos will comply with the relevant regulations and come complete with access and escape routes to suit site requirements.

## Cranage

Where installation is required we will supply all lifting equipment along with experienced, qualified site engineers to ensure safe installation.

Cranage can be supplied either as a contract lift or direct hire where we provide relevant lift plans along with the necessary method and risk assessments.



# Bin Activators

CMH are a leading supplier of Bin Activators servicing such diverse sectors as food, industrial and chemical sectors. Bin activators are an efficient way of ensuring discharge from silos or hoppers for most materials and each machine is individually selected based on the product flow characteristics, density, silo diameter and discharge rate.

Bin activators are available from 400mm to 3.5m in diameter and in mild steel, 304 & 316 stainless steel and in finishes ranging from industrial to food quality.

## Operating Principles

The operating principle of the Bin Activator is its dynamic action to the stored product. The conical baffle is vibrated together with the main body with which it forms an integral part. The baffle absorbs the static and dynamic loads of the stored product and prevents compaction of the outlet. The baffle transmits vibration to the product, breaking the forces of cohesion which bond the particles together and promotes flow.

## Bin Activators offer the following advantages

- Promotes “mass flow” first in, first out principle when sized specifically.
- Prevents rat-holing, bridging and flushing of stored product.
- Minimizes segregation and degradation of product.
- Conditions materials achieving a consistent bulk density for metering, weighing etc.
- Saving in vertical space.
- Easily retro fitted to existing silos or hoppers.
- Completely dust tight in operation due to the flanged sleeve design.
- Low noise levels and power consumption.



# Big Bag Dischargers

CMH offer a range of Big Bag Dischargers to suit your needs, whatever your big bag dimensions or specifications. The standard Big Bag Discharger has been designed to provide an effective, yet economical solution for the emptying of big bags with dimensions 1.0m square and up to 2.5m tall with weights up to 1500kg. For larger bags a heavier construction discharge station is available.

The essence of the discharge station is operator safety and the body is designed so that the bag weight is taken on the cone, creating a seal, with access to the bag outlet via a hinged door in the vertical section of the body. This prevents a situation where the operator is working on the outlet with the bag suspended above. As an option a free standing filter unit can be supplied to provide a slight negative pressure through the door when open. This can be manually operated or automatically via a proximity switch on the door.

Other options include complete support frame assemblies for fork truck loading or with overhead runway beams, removable knife block for single trip bags and a split upper frame which extends as the weight of the bag is reduced to ensure complete bag discharge. This has the added advantage of reducing the dust emissions caused by shaking the bag to remove the last quantities of product.

Support frames and loading assemblies can be adapted to suit site requirements and can be designed to work in conjunction with screw conveyors, weigh systems, pneumatic conveying, vibratory feeders, sieves etc.

The standard unit comes complete with a fork truck bag lifting frame which is supplied with a test certificate.

Available in a range of materials from carbon steel and various grades of stainless steels to suit your application.





# Torver Loading Spout

Torver Loading Spouts are suitable for handling dry products in powder or granular form.

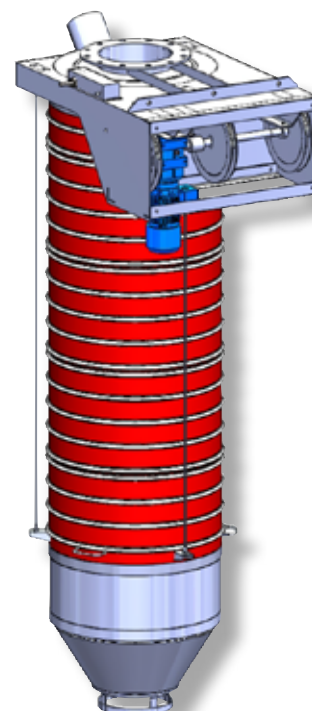
Different models for loading of open trucks and tankers are available. If a standard type of loading spout is not the ideal solution a specially adapted version to meet particular requirements can be offered.

There are two main categories of loading spout:-

Bellows for open loading and bellows for closed loading. Each type can be supplied with the following accessories:-

- Dust extractor connection on the upper head for dust-generating materials.
- Double-walled bellows for soft and floury materials, for improved dust extraction without interfering with the flow of the material.
- Metal inner cones for use with granular and abrasive products such as sand, granular feed products, minerals, coal and stone chippings.
- Electro-mechanical winch for automatic lifting.
- Maximum and minimum safety levels.
- Slack cable contact.
- A range of level detectors (all of which are fitted in a safety cone).

Loading spouts are widely used in all industries. Several versions are available in a wide range of material to suit particular industries including mild steel, stainless steel, aluminium and special coatings.





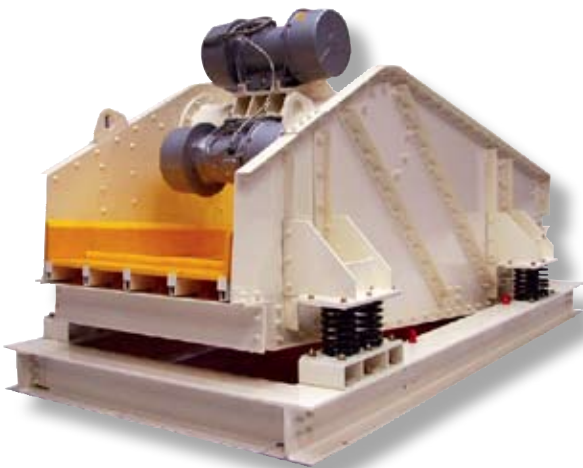
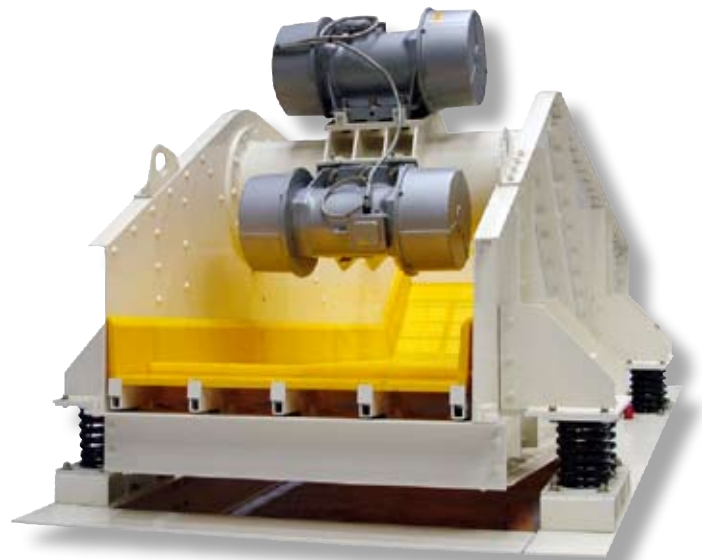
# VS De-Watering Screens

CMH De-Watering screens come in a range of six sizes, designed specifically for the removal of free moisture.

The screens comprise of a 45° sloping back section and 5° inclined deck section fitted with either polyurethane or stainless steel wedge wire panels.

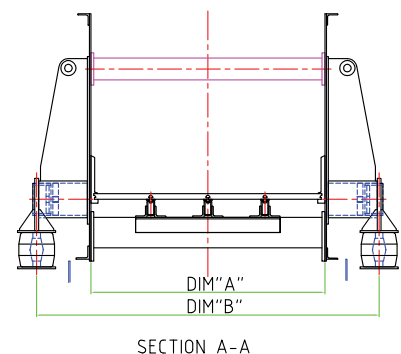
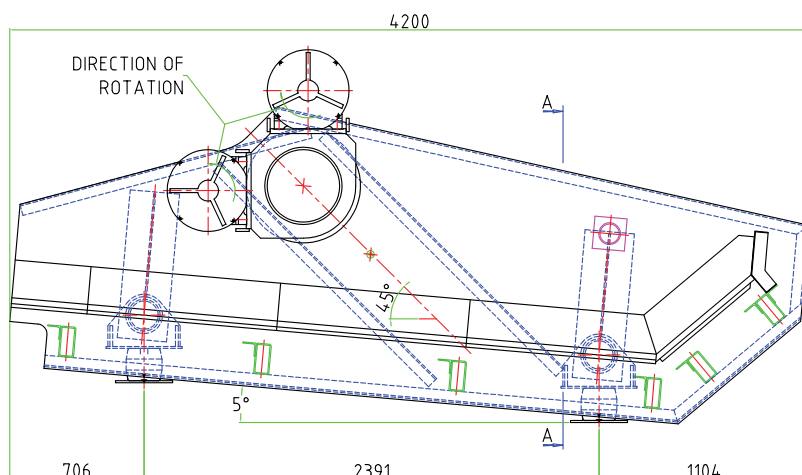
The screens are excited by means of two vibrating motors operating at either 980 or 1460 r.p.m. which induce linear motion into the screen bed.

Our De-Watering screens are robustly designed and constructed to withstand the day to day rigours of site use. They offer the ideal solution for sand washing and mineral processing industries.



Screen Size	DIM "A" mm	DIM "B" mm	Capacity t.p.h
VS 9/36.5/41.4	930	1500	90
VS 12/36.5/41.4	1230	1800	120
VS 15/36.5/41.4	1530	2100	150
VS 18/36.5/41.4	1830	2400	180
VS 21/36.5/41.4	2130	2700	210
VS 24/36.5/41.4	2430	3000	240

Screen Capacity based on 100 t.p.h./m width with a Deck Aperture of 1mm



# Volumetric / Gravimetric

## Feeders

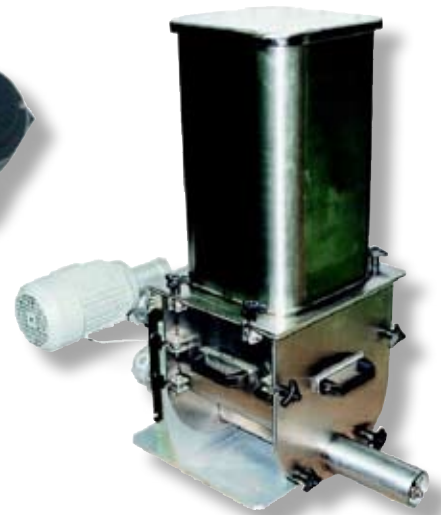
### Technical Specifications

Mod. C Screw Batchers are essential machines for the precision batching of any material and are extremely versatile since they can handle free-flowing materials with widely varying particle sizes and densities.

Homogeniser and Stirrers in AISI 304 stainless steel.



Geared motor driven with flexible coupling to batching screw.



### Construction Features

Body and hopper in painted steel or AISI 304 or 316 stainless steel. Batching device comprising AISI 304 stainless steel screw available in various dimensions designed for the different capacities of machine. Homogeniser and stirrers in AISI 304 stainless steel. Geared motor driven with flexible coupling to batching screw.

### Gravimetric Version

A Gravimetric Version is available with a AISI 304 stainless steel weighing table with single off centre load cell. Capacities of up to 300kg (dependant on model), can be accommodated.

Weighing instruments are available to meet the widely varying requirements for both continuous and batch feeding.

### Maintenance and Cleaning

Cleaning and maintenance of the feeder is easy to carry out with minimal tools or facilities, all parts are light weight and very easy to disassemble and to reassemble.



# Plant Design

CMH have the capabilities and experience to deliver complex process plants.

All contracts undertaken will be managed by experienced engineers whose purpose will be to co-ordinate the whole contract from design and

build to commissioning throughout the duration of the contract, the Engineer will be a single point of contact for the customer ensuring all information is channelled via one source and the communication route is always maintained.

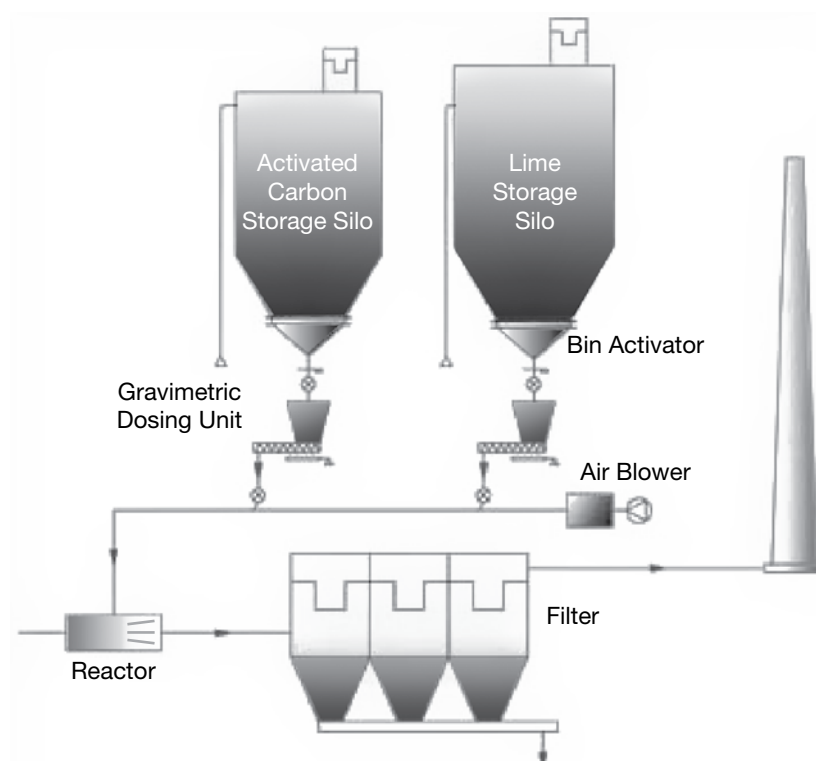
## General Design

CMH can offer a full range of design services from complete systems to bespoke handling machines. Designs are completed to the appropriate standards and codes and supported with the relevant documentation.

## Silo Design and Filling / Discharge Systems

One of our specialist areas is silo storage and discharge systems. Our standard capacity range is from 1000m<sup>3</sup> and 100Te/hour discharge down to 10m<sup>3</sup> and 50kg/hour discharge. We can supply all feed and discharge options including screw conveyor, belt conveyors, bucket elevator or pneumatically conveyed.

Our customers can be assured that all safety devices are included and health and safety requirements satisfied.



# Industries

CMH have machines and plant operating successfully in a wide range of industries including:-

**Battery Manufacture**

Pneumatic conveying of lead chip and granules.

**Brewing / Malting**

Wet grain elevators, steep discharge conveyors, en-masse conveyors

**Brick Manufacture**

Storage and pneumatic conveying of sand, conditioning, mixing with pigment, metering.

**Cement / Aggregate**

Storage, screw and belt conveying.

**Chemical**

Zinc oxide storage, pneumatic conveying, bulk outloading.

**Food**

Storage and discharge, mechanical / pneumatic conveying of flour, coffee beans, etc.

**Glass**

Complete glass batch plant, cullet / batch proportioning, sand drying.

**Incineration**

Lime and Powder Activated Carbon injection for gas cleaning, water cooled bed and ash conveyors, bag-house dust conveying, ash conditioning.

**Paper**

Discharging and conveying of paper sludge.

**Pharmaceutical**

Storage and feeding of powders.

**Plasterboard**

Storage and handling of gypsum.

**Power Station**

Biomass handling and weigh feed systems.

**Rubber**

Big bag handling of carbon black, handling granular rubber.

**Sewage**

Lime addition, conveying.

**Sugar**

Bin activators, big bag dischargers, screw conveyors.

**Waste / Refuse**

Apron chain, belt conveying, picking conveyors.

**Water**

Lime / Powdered Activated Carbon dosing, slurry mixing.



# Gallery





The Don Valley Group incorporates:

- Don Valley Engineering Ltd
- Don Valley Construction Company Ltd
- Cleeve Materials Handling Ltd

Using the facilities of the Don Valley Construction Company Cleeve can offer a total package from design through to final erection and commissioning.

#### **Typical Clients**

Welsh Water	KMI Water
South West Water	M.J. Gleeson Group
Anglian Water	Keppel Seghers
Interserve Projects	Lafarge
Ondeo Degremont Ltd	Kerneos
John Mowlam & Co	Grundons
Kvaener	Kraft Foods
Novera Energy	Pilkingtons
Tilbury Douglas Ltd	

# Notes



## The Don Valley Engineering Group



Don Valley Engineering Co. Ltd  
Sandall Stones Road  
Doncaster  
South Yorkshire  
DN3 1QR

Tel: + 44 (0)1302 881188  
Fax: + 44 (0)1302 881000  
Email: [sales@donvalleyeng.com](mailto:sales@donvalleyeng.com)  
Web: [www.donvalleyeng.com](http://www.donvalleyeng.com)



**ECIA**

Engineering Construction  
Industry Association

MEMBER OF



BREWING, FOOD & BEVERAGE  
Industry Suppliers Association



Institute of Brewing & Distilling  
**MEMBER 2010**

A MEMBER OF  
DONCASTER



Don Valley Eng. Construction Ltd  
Sandall Stones Road  
Doncaster  
South Yorkshire  
DN3 1QR

Tel: + 44 (0)1302 881188  
Fax: + 44 (0)1302 881000  
Email: [sales@donvalleyeng.com](mailto:sales@donvalleyeng.com)  
Web: [www.donvalleyeng.com](http://www.donvalleyeng.com)



Cleeve Materials Handling Ltd  
Suite 4 Prospect House  
Bath Road Trading Estate  
Stroud  
Gloucestershire  
GL5 3QF

Tel: + 44 (0)1453 750085  
Fax: + 44 (0)1453 766776  
Email: [sales@cleevemh.co.uk](mailto:sales@cleevemh.co.uk)  
Web: [www.cleevemh.co.uk](http://www.cleevemh.co.uk)