

Environmental Technologies to Save You Money

Fogging

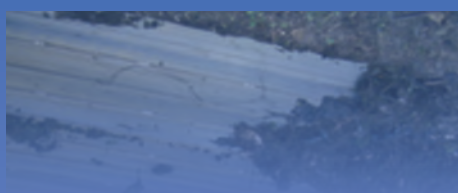


Tube Chain Conveyors

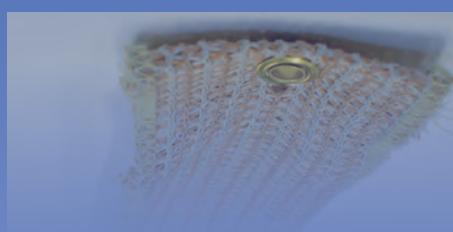
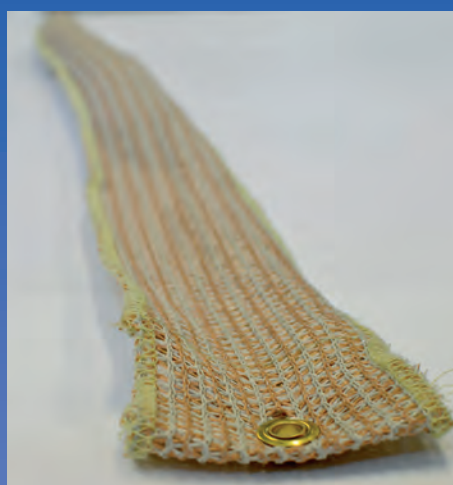


Dust Suppression & Odour Control Bulk Solids Conveying

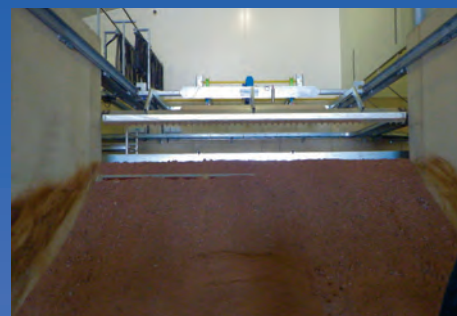
Moving Floors



Odour Control



Toploaders



Get things moving with Renby



Renby Limited are experts in conveying systems for bulk solid materials, and fogging systems for dust suppression and odour control.

Renby offer Tube Chain Conveyor and Moving Floor systems to handle bulk materials of all kinds in small or large volumes, ranging from muesli, meat and bone meal to biofuels, recycling or waste materials. We are the only company in Europe to provide these two technologies together from a single location.

Moving Floors and The Toploader (EU Patent 882390) enable automated reception of alternative fuels and transfer to boilers. Both systems lend themselves to many other applications.

Our **MicronFog™** system, provides effective dust suppression and odour control. It is also used in other different applications such as cooling, humidification, visual effects and in landscaping applications where mist or fog effects are required.

Our Objectives for Your Business:

Increase Profitability

When our customers are profitable, we are profitable. The Renby range is geared to increasing your plant efficiency, and reducing problems that create a drain on profitability. We want you to enjoy a fantastic return on your investment.

Increase Safety

Renby Products help to make workplaces safer by reducing dust and spillages. **MicronFog™** eliminates airborne dust providing long term health benefits for the workforce. With Tube Chain Conveyors, dust is not released in the first place.

Reduce Waste

The arch enemy of the bottom line, whether wasted energy, wasted raw materials or wasted effort & double handling. Our systems help you eliminate waste from your process. Other products within the range help you to re-use waste and turn it into a resource.

Reduce Fossil Fuel Use

Renby's low energy systems increase efficiency, thereby reducing use of fossil fuels. We are proud that our projects have helped to displace the production of 100,000 tonnes of CO₂ per year.

Increase Efficiency

Our simple, practical and efficient, systems get material where it is needed, quickly and efficiently without fuss, spills or stoppages; This is the key to saving time and money on any site which handles bulk solids.

Reduce Dust & Odour

Renby systems take away problems of dusty or odorous working conditions making the workplace safer and cleaner. Reducing dust eliminates exposure to future litigation and means a better relationship with the Environment Agency and neighbouring properties.

Reduce Energy Consumption

Renby select technologies that use less energy than alternative solutions, providing obvious cost reductions and environmental benefits. A core principle at Renby is protecting the environment.



"Because There is no Planet B"

Practical Solutions for Dust and Odour

Innovative, simple and comprehensive

Fogging



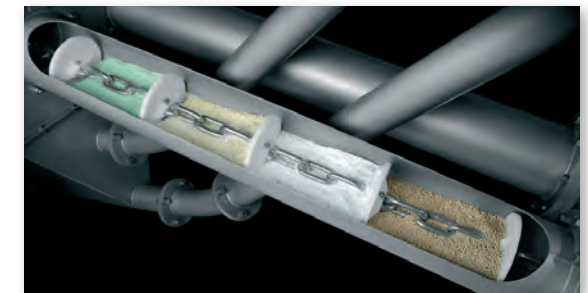
MicronFog™ is the most practical, sustainable and economical way to **suppress dust and odours**, both indoors and outdoors, creating a better working environment. **MicronFog™** can also be used for cooling, humidifying, disinfecting and for special effects in landscaping, art and film set applications.



Tube Chain Conveyors



Renby provide tube chain conveyors from Schrage Rohrkettensystem GmbH for efficient, **dust tight conveying of bulk solids** of any kind, from food materials, chemicals, or biomass to waste products. They allow transportation of material at any angle and in any plane.



Neutrapak™ Odour Control



Renby's Neutrapak™ range **neutralises odours** of any kind whether indoors or outdoors using natural plant oils. With expensive claims being filed against site operators for odour problems, Neutrapaks are a simple, effective, economical, **stand-alone solution to nuisance odours**. Keep your business costs down and your neighbours happy.



Toploaders



The Hydratech Toploader (EU Patent #882390) system is the most energy efficient way to **receive, store and handle bulk solids** at road level and deliver measured amounts to your process. Useful for green waste, dry bulk solids and biomass delivery to boilers. The Toploader bunkers allow **material reception from any vehicle**, offering flexibility at the receiving point.



Moving Floors



We are UK agents for Spiro B.V. Spirofloor® Moving Floors are robust, low energy and efficient. They can **receive and store bulk materials** from various vehicles, simply, without fuss, **eliminating double handling**. They can be set to match the speed of the process. In addition to a concrete base, Spirofloor® can also be mounted in an ISO container.



FOG FOR DUST CONTROL

"The Fogging System does everything it says on the tin, and more besides."

Engineering Manager, Vegetable Packing Company, Midlands

Dust Suppression

A severe problem in many bulk handling environments, dust can cause respiratory problems such as COPD and silicosis. This can expose companies to lost time or costly litigation. Dust affects machinery, increasing maintenance and running costs and reducing plant efficiency. Complaints from neighbouring properties also creates additional work.

Control Dust with *MicronFog™*

Renby *MicronFog™* is a revolutionary proven, economical and effective method for dust suppression, dust abatement, and air filtration. Fog suppresses dust in countless applications. Many new users are truly surprised by its performance which often exceeds expectations. *MicronFog™* uses fine droplets of water to remove dust from the air. The system produces a high concentration of 10 micron fog droplets. This size of droplet provides optimum performance for attracting and suppressing PM 10 and smaller particles. *MicronFog™* uses a pressurised water supply to create the fine mist, rather than the common alternative of compressed air. This uses far less energy. It is thus significantly cheaper and more efficient to operate. The system is supplied complete with filtration, disinfection and water conditioning. Renby understand dust and can design a bespoke solution with sophisticated controls to suit your process.

Odour Control

Noxious or unpleasant odours lead to complaints from nearby properties and a dangerous workplace. *MicronFog™* controls flies, and suppresses odour causing pathogens. By adding masking or neutralising agents to the water feed, it can also eliminate other process odours.

Applications



- Energy From Waste Sites
- Compost, Bark and Woodchip Processing
- Grain Handling
- Recycling and Municipal Waste Sites
- Coal Dust Suppression
- Quarries and Minerals Processing
- Conveyor Belt Transfer Points
- Construction & Land Development Sites
- Odour elimination associated with
 - Solid waste treatment
 - Microbial decomposition of animal waste
 - Noxious volatile compounds.
- Indoors or Outdoors
- Landscaping special effects
- Humidification and cooling



Load point Dust Control

Benefits

- Increased productivity & reduced downtime
- Visible enhancement of working environment
- Significant improvements in Health and Safety
- Improvements in morale
- Minimises future litigation exposure
- Capital cost saving of 30 to 90% versus dust extraction
- 90% less water than a sprinkler system
- Economical to run (a fraction of the cost compared to dust extraction)



High Pressure Pumps

The Renby *MicronFog™* pump range includes the highest quality, inverter driven high-pressure pumps available. They provide energy efficient, problem-free 24/7 operation under continuous use in adverse or extreme conditions. They are the preferred choice under all conditions when quality and value are the primary considerations.

Components include stainless steel valves and forged brass manifold & valve caps. With energy efficient motors, pump speed is matched to the application using inverters to save energy. Slower speed means lower operating cost, quieter operation, longer life, and less maintenance.

Oversized pump modules operate at a fraction of the capacity. These high quality, pumps are fully integrated with water treatment and a programmable controller.

Slip Lok Fittings

Renby *MicronFog™* high-pressure nylon tubing & sliplock fittings make installation quick and simple, thus reducing labour costs. Reliable and versatile, they can be used to create virtually any nozzle spacing allowing on-the-job customisation unique to these components.

Control And Filtration

Water filtration is essential for the efficient operation of any system. Our control panel takes care of your filtration requirements.

The electronic water conditioner eliminates softener chemicals and a UV lamp disinfection unit protects the water to prevent legionella and other water borne pathogens. Renby were the first to offer this feature in misting or fogging systems of this nature.

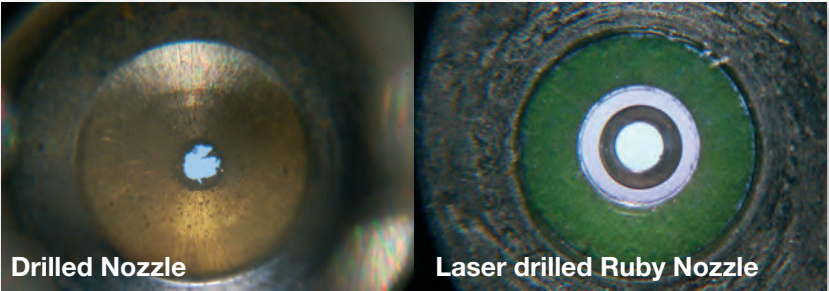


Precision Nozzles

Renby *MicronFog™* uses the highest quality fog nozzles available. Made with quality nickel plated brass alloy & laser drilled ruby, they are precision engineered and laboratory tested to ensure durability & consistent atomisation performance as small as 1 micron (most droplets between 5 and 15µ). A range of flow rates are available, from 0.02 litres per minute (lpm) to 0.19lpm. Also available in stainless steel, nozzles include an o-ring seal and can be easily installed and removed by hand without special tools.



Microscope Images of drilled fogging nozzles



Poorly drilled nozzles lead to erratic spray patterns, larger droplets and reduced performance. Our laser drilled ruby nozzles have a perfect circle leading to a symmetrical cone shape and repeatable droplet size distribution.



Vegetable Packing plant Dust control

TUBE CHAIN CONVEYORS

“Our ash conveyors are running really well, we want to use them again on other projects.”

Engineering Director, Energy From Waste Company

Tube Chain Conveyors Operate Where Others Fear to Tread

Bulk materials conveying is often challenging. Powders can be abrasive, sticky, fluidise readily etc. The solution is to use a versatile conveyor that ensures all material delivered at the loading points is discharged at the outlet and that means fugitive dust is eliminated.

The tube chain conveyor from Schrage Rohrketten-system GmbH is the best solution. Renby is delighted to offer this incredibly versatile system.

The tube chain conveyors have almost unlimited application possibilities, easy vertical conveying, multiple inlets and outlets, and conveying of bulk materials around corners.

They provide efficient, dust free, low energy transportation of all kinds of bulk solid materials, over a wide range of distances. The modular construction allows the Tube Chain Conveyors to grow with the application.

Customers are delighted with the performance of our tube chain conveyors. In many cases, by working together closely with them, we have been able to provide a solution that had previously been unsolved, successfully conveying materials that were impossible to handle with any other system. Little or no product is retained in the conveyor, so cross contamination is minimised, allowing fast product changeovers.

Dust and spillages are eliminated, resulting in a safer and more pleasant working environment.

Applications

- Bulk solids including granulates, powders & sludges
 - Bulk food products
 - Pre-mixed food products such as muesli
 - Minerals Plastics and Chemicals Processing
- Multiple discharge points
- Applications where spillage must be eliminated
- Abrasive or sticky materials
- ATEX versions from ATEX 20 to ATEX 22
- Safe zone operations
- Any plane: horizontal, vertical - any angle
- Conveys round bends and any height or under-floor
- Fits into tight spaces (often the only solution possible)

Schrage
CONVEYING SYSTEMS

Why Choose a Schrage Conveyor?

- 25 years experience in the field
- Extensive R&D, many patents granted
- Over 2500 Installations Worldwide
- Robust and reliable components



Drive Station

Benefits

- Low running costs and savings from
 - Low wear rate
 - Self cleaning
 - Low energy consumption
 - Fast and efficient
 - Gentle product handling retains product quality
- Dust tight & no spills allows a clean work environment
- Pressure tight
- Contains odour problems
- Preserves product mix, minimal segregation



Performance Evaluation

Customers are welcome to visit the company and the large test hall at the Schrage Rohrketten-system HQ in Friedeburg, Germany (pictured above) can prove most applications.



Available Capacities

Tube chain conveyors are available in five sizes, offering capacities of between 0 --> 85 cu. m/h

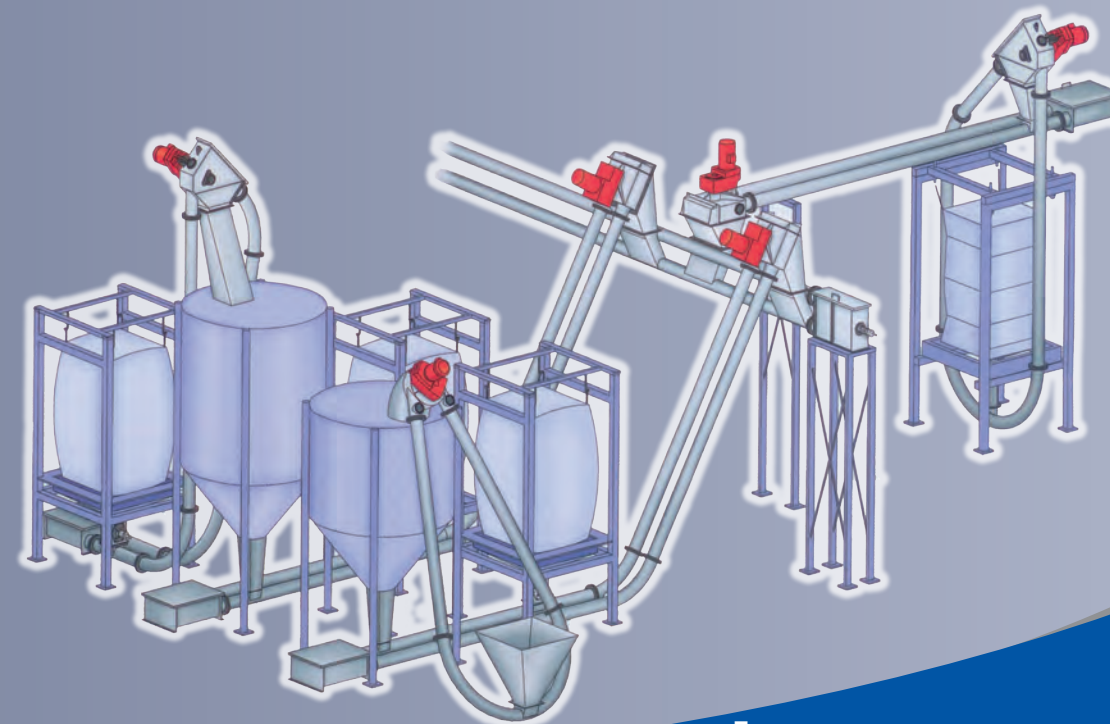
In every case, they can run, start and stop either empty, full or any combination in-between. This allows full versatility with the control system so that you dictate what the conveyor does rather than be dictated to by the conveyor. A single conveyor can run horizontally for up to 60 metres or will elevate product vertically 40 metres.

Maintenance Requirements

Once the units have been commissioned and run for a few days, maintenance needs are very low. All that is required is planned checks of the chain tension - which takes 15 to 30 minutes, and occasional greasing.

Increase Profits

Overall, a Schrage Tube Chain Conveyor from Renby is among the best investments a quality bulk materials site can make.



MOVING FLOORS

“After the success of our first Spirofloor®, we installed another four”

Engineering Manager, Municipal Waste Company

Spirofloor® Handles Large Volumes of Bulk Materials

Whether conveying waste materials, bulk biofuels or a clean bulk solid, efficient bulk materials reception methods are essential.

The Spirofloor® is most often used in applications where bulky material needs to be transported and processed, including paper, tyres, municipal waste and garden waste. The Spirofloor® enables bulk waste or feedstock to be transferred directly into the plant feed system.

Spirofloor® features hydraulically driven hardened aluminium or steel floor profiles (planks) which move in a constant cycle to transport loads in either direction at variable speeds.

Available in three configurations to suit different operating requirements, Spirofloor® allows 24/7 continuous operation. This works well in applications such as waste processing plants, where they can be integrated as self-discharging bunkers and used to automate the feed of material into your process.

An evolution of the trailer mounted floor, each Spirofloor® is designed from the ground up to be robust and for continuous 24/7 operation. This allows it to be tailored to suit your process, reducing maintenance costs and stoppages.

When combined with the Schrage Rohrketten-system GmbH Tube Chain Conveyor, a very effective raw materials reception and handling system results. Renby is the only company in Europe to offer this combination from one location.

Applications

- Municipal Waste
- Green Waste
- Peat & Compost
- Tyres
- Bulk Biofuels
- Paper
- Wood, Waste Wood & Sawdust
- Industrial Waste
- Animal Feeds
- Cereals



Municipal Waste

Benefits

- Load discharge at a variable measured rate
- Double-handling of loads eliminated
- Endless movement cycle optimises material flow
- Excellent reliability through use of advanced technology and materials
- Lightweight and durable – hardened aluminium
- Low Maintenance through simple effective design

How Does A Spirofloor® Work?

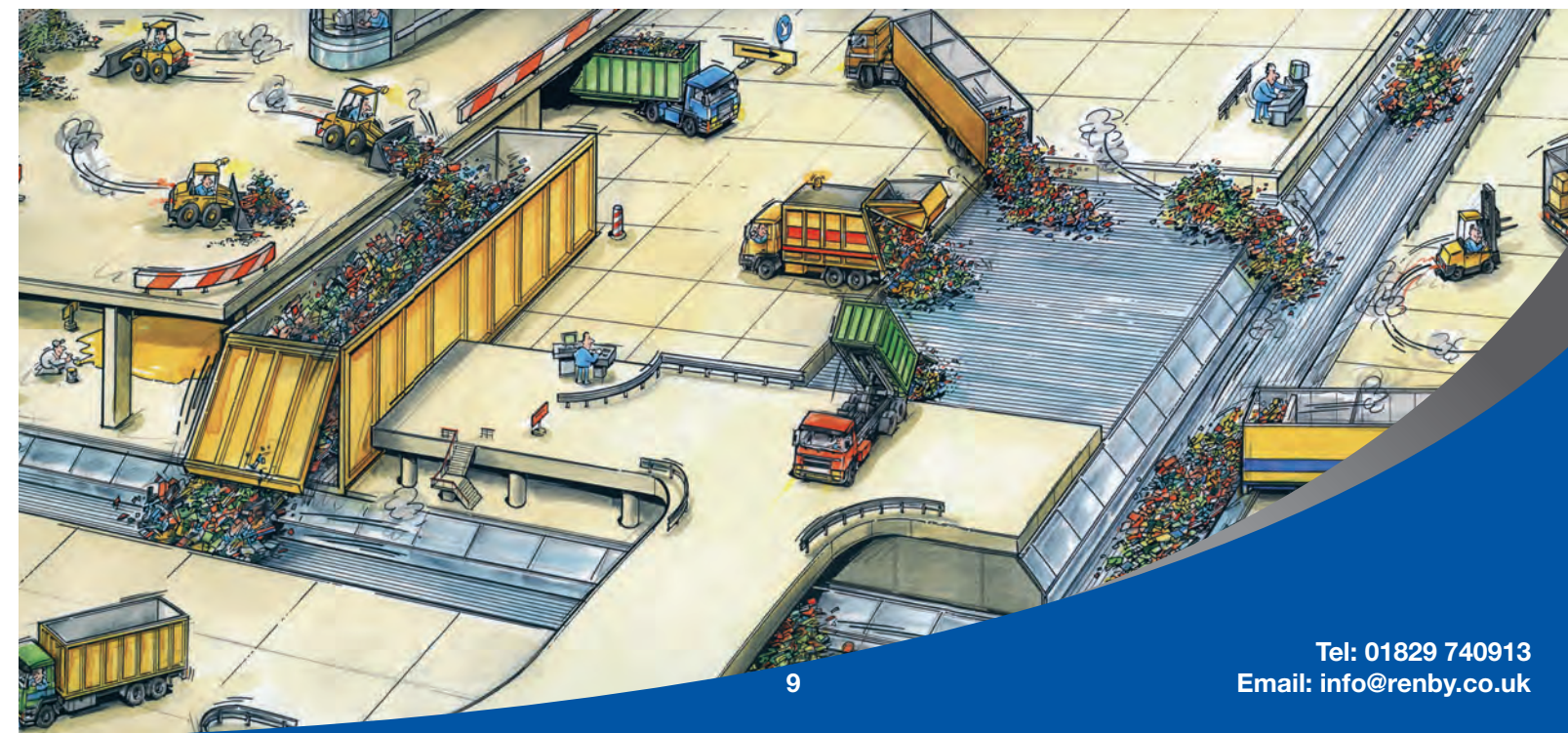
The secret is the difference in friction between the floor itself and the load which it is carrying. A four-step endless sliding movement cycle of hardwearing planks conveys the load by moving three groups of floor profiles in sequence.



Green Waste Application

Customisation

In static installations using the core design modules, the Spirofloor® can be customised to suit any layout or process at various lengths and widths to suit your requirements as illustrated below. Floors can be designed to allow vehicles to drive over them.



Static and Container Conveyor Floors

The Spiro Conveyor Floor conveys loads with equal effectiveness installed as:

- A static floor in a bulk materials reception area, or
- When mounted into an ISO container



Reception Floor - Meat & Bone Meal

Accessories

A selection of accessories are available to assist with feeding and discharging a broad range of feedstock materials handled by the Spirofloor®;

- A range of plank thicknesses - 5.5 to 12mm to suit
- Steel planks with manganese steel tops
- Porous floors to allow air to be forced through the material, especially dry materials
- Drip pan systems to contain liquid run off
- Top mounted drive cylinders for surface mounted floors easing maintenance access
- Drum feeders to break up cohesive materials

THE TOPLOADER

“Our Toploader has made our process more efficient than ever before”

Operations Manager, Compost Plant.

The Hydratech Toploader

Renby are proud to partner with Spiro to offer our customers their incredibly efficient Hydratech Toploader (EU Patent #882390) system. With its simple and effective design The Toploader is the economic solution for automatic reception, storage and processing of a wide variety of bulky products.

It allows any kind of vehicle to load into the bunker allowing receiving sites to be very flexible and efficient.

Applications

- Green Waste
- Peat, Soil and Compost
- Biofuels & SRF
- Animal waste
- Sawdust, Wood and wood chips
- Chipped bark
- Fertiliser
- Industrial waste
- Cereals, Silage and Animal feeds
- Paper and wood pulp



Benefits

- Low energy costs
- Excellent reliability through use of advanced technology and materials
- Easier to load, lorries can back right into the unit
- Double-handling of loads eliminated
- Low maintenance & less down time through
 - Simple, effective design
 - Fewer replacement parts
- Very competitive compared to other storage and transport reception
- Freedom to choose the most economical transport
- All moving parts are placed over the pay load, preventing direct contact with the material
- Capacities up to 50 m³/h

How the Toploader Works

Initially, a lorry or front loader makes a delivery into the storage bay. Once it has left, the scoop travels along the tracks mounted on top of the side walls and picks up the material from the furthest end of the stockpile.

The scoop then drags material over the stockpile and automatically empties material onto a discharge conveyor. The system fetches the next load and waits until the discharge conveyor calls for more material and then the sequence repeats.



Ideal for Topsoil or compost

NEUTRAPAK ODOUR CONTROL

“Its been so effective, we will be using Neutrapak™ from now on”

Operations Manager, Landfill Site

Neutrapak™ Neutralises Odour

Some industrial processes create odours. It is a normal natural part of the process.

Until recently, it was not easy to make a complaint or file legal claims because unpleasant odours, are difficult to define. Now, more claims are being filed for odour nuisances. With space often at a premium, industrial and waste processors find themselves increasingly under pressure to reduce odours from their sites to avoid expensive litigation or fines.

Regulators and local authorities are also giving focus to this area and require action to prevent odours from affecting neighbouring properties.

Neutrapak™ is effective in most weather conditions for up to 90 days as long as it is not covered by snow or debris.

Benefits

- Efficient Odour Control
- Sustainable: Derived from natural plant oils
- Effective indoors and outdoors
- Zero running costs : No power or water required
- Rapid deployment: No infrastructure to lay in
- Neutrapak™ pouches are quick & simple to attach
- Pouches can easily be disposed of on landfill
- Minimal maintenance: Just replace quarterly
- Ideal for remote, temporary and difficult access sites

Applications

- Open air landfill & waste sites
- Biofuel & EfW plants
- Ponds & contained water
- Silos
- Sludge tanks
- Animal rendering
- Meat processing
- Food processing



Bespoke Odour Control:

Certain plant oils are effective against specific odours. The granules used in your Neutrapak™ are selected to suit the odour problem being addressed.

Traditional odour control systems try to mask odour, or filter huge amounts of air. Masking often creates a new problem smell. Filtering air is simply not feasible in many places and would be impossible outdoors. Neutrapak™ neutralises the odour by bonding the odour molecules to a non-odorous plant-oil based compound.

Neutrapak™ comes in discreet easy to attach mesh pouches containing Neutrapak™ granules. Pouches are positioned around the site normally at 2 metre intervals, suspended from virtually any reasonably firm structure 2 metres from the ground. The odour neutralising molecules begin to work immediately upon exposure to air and are released at a slow steady rate.



Neutrapaks suspended from roof structure

Food Waste Odour Neutralisation

BULK MATERIALS RECEPTION

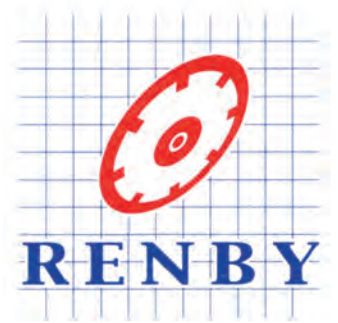
BULK SOLIDS HANDLING

DUST CONTAINMENT

DUST SUPPRESSION

ODOUR CONTROL

SPECIAL EFFECTS (MIST)



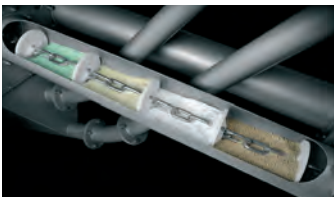
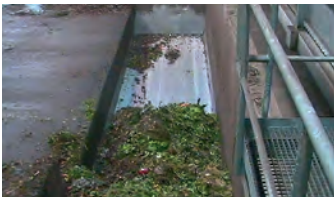
TUBE CHAIN CONVEYORS

FOGGING SYSTEMS

MOVING FLOORS

TOPLOADERS

NEUTRAPAK



Renby offer reliable practical resource efficient and innovative solutions to address materials handling, dust and odour problems and enhance the working environment at our customers premises.

Our systems are used in a wide range of industries, including waste and recycling, chemical manufacturing, food, cement, energy from waste, any environment where dust pollution and odour are involved. Our fogging systems can also be used in special effects applications where mist is required.

We work in partnership with our clients to forge a sustainable, cleaner and safer world. Managing Director, Robin Travis says "I spent some considerable time in Northern Europe where I saw first-hand the effects of pollution passing from one country to another. This awareness, coupled with the obvious and urgent need to address Climate Change has been a major factor in the direction I have chosen for Renby".

Why Choose Renby?

- 45 Years history in bulk solid materials handling
- Experts in conveying dust and dust suppression
- Combined Tube Chain Conveyor and Moving Floors (The only company in Europe to provide these from one location)
- Deep understanding of the legislative environment & problems relating to dust and solid materials handling
- Strong track record of repeat business from very satisfied customers

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