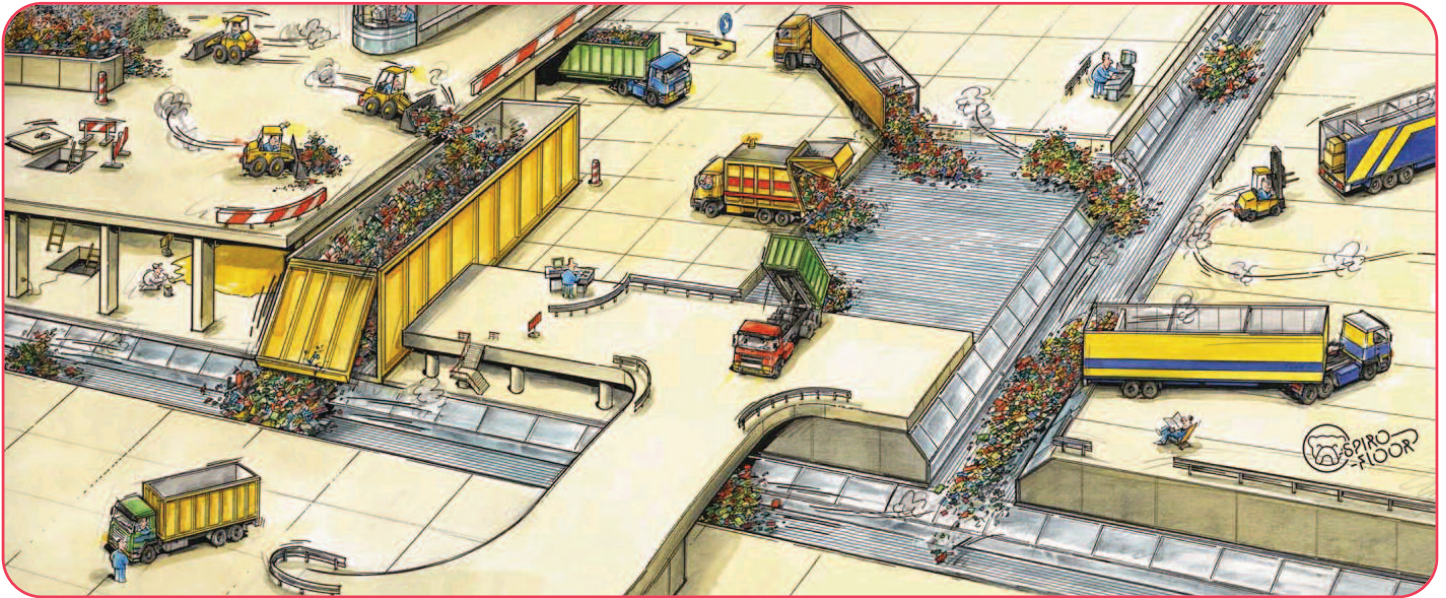


**Proven Environmental Technologies to Save You Money**



## SPIRO MOVING FLOORS HANDLE LARGE VOLUMES OF BULK MATERIALS

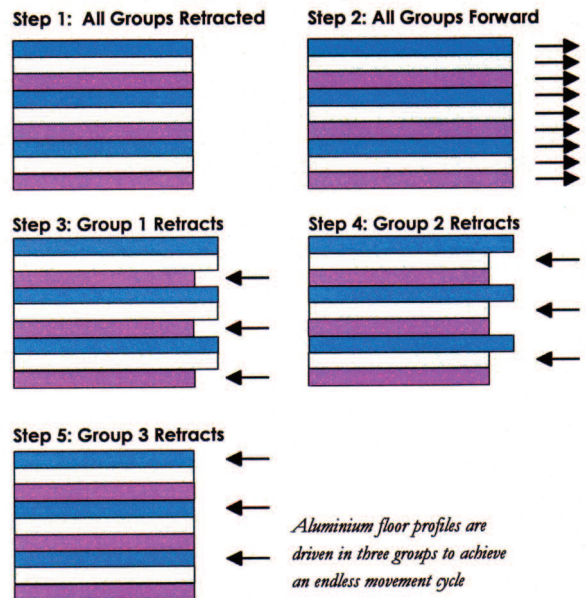
Renby is proud to offer the technologically advanced Spiro Conveyor Floors (also known as moving or walking floors).

Spiro Conveyor Floors feature hydraulically driven hardened aluminium floor profiles which move in a constant cycle to transport their load in either direction at variable speeds (see over for details). They are available in three configurations to suit different operating requirements:

- *Static conveyor floors* for use in applications such as waste processing plants, where they can be integrated with self-discharging bunkers and dump platforms and used to control the flow of material to picking points.
- *Truck or trailer floors* for applications where discharge rates must be controlled and/or where headroom is restricted.
- *Lightweight lorry floors* where a quick and light installation is required, or where faster discharge rates are needed.



Conveying Direction →



The principle behind the success of the Spiro Floor is the difference in friction between the floor itself and the load which it is carrying. A five-step endless movement cycle conveys the load by moving three groups of eight floor profiles, as follows:

**Step 1** - All three groups have been retracted under the load.

**Step 2** - All three groups move forward simultaneously conveying the load 15cms forward.

**Step 3** - Group 1 of the floor profiles retracts 15cms at high speed under the load which remains stationary.

**Step 4** - Group 2 is similarly retracted while the load remains stationary.

**Step 5** - Finally, Group 3 is retracted under the load which remains stationary and the cycle returns to Step 1.

# Proven Environmental Technologies to Save You Money



## Mobile and Static Conveyor Floors

The Spiro Conveyor Floor employs a three-cylinder hydraulically-driven aluminium floor profile system to convey loads with equal effectiveness in all of the following applications:

- Fitted as a static floor in a bulk materials reception area.
- Mounted on the floor of a truck or trailer
- Mounted into an ISO container



In static installations, the Spiro Floor® can be connected up in any desired length or width because it is a modular system.

In truck-mounted installations, the Spiro Conveyor floor is bespoke manufactured to achieve an exact fit on any truck or trailer bed.

The Spiro Conveyor Floor is most often used in applications where bulky material needs to be transported and processed, including paper, tyres, municipal waste and garden waste.

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.

## Benefits

The major benefits of the Spiro Conveyor floors are as follows:

- Loads can be discharged at a variable measured rate.
- Double-handling of loads is eliminated.
- Endless movement cycle means optimum material flow is achieved.
- Advanced technology and materials deliver excellent reliability.
- Hardened aluminium used to combine light weight and durability.
- Simple but effective design reduces maintenance to a minimum.
- Ideal for bulk materials handlers, including paper, tyres, sawdust, cereals, waste, wood, peat and compost.

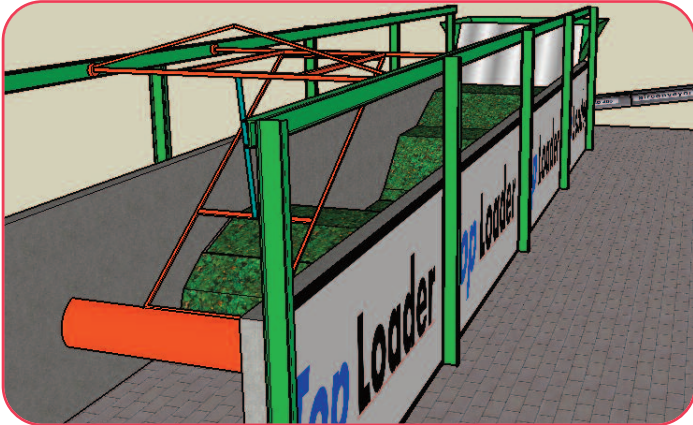
## Accessories

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

- Range of plank thicknesses from 5.5 to 12mm to suit application.
- Steel planks with manganese steel tops.
- Porous floors to allow air to be forced through the material; for instance, to pre-dry material.
- Drip pan systems to contain liquid run off from the floor.
- Top mounted drive cylinders for surface mounted floors and to ease maintenance access.
- De-compacting equipment to break up cohesive materials.
- Drum feeders to meter e.g. paper and woodchips from the floor into your process.



## THE TOPLOADER (EU Patent #882390)



The Toploader system is the economic solution for automatic reception, storage and processing for all kinds of bulky products, such as peat – compost – woodchips – fertiliser – fibres – sawdust – bark – SRF.

First of all, the lorry makes a delivery into the storage bay. Then, once it has left, the bucket travels along the tracks mounted on top of the side walls and picks up the material from the furthest end of the stockpile.

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



The competitive “Toploader” advantages:

- Handles a broad range of materials
- No restrictions in length width or storage capacity
- Existing structure (concrete floor) can be used, no pits required.
- Completely automatic
- Very competitive compared to other kinds of storage- and/or transport reception facilities.
- Easier to load, lorries can back right into the unit.



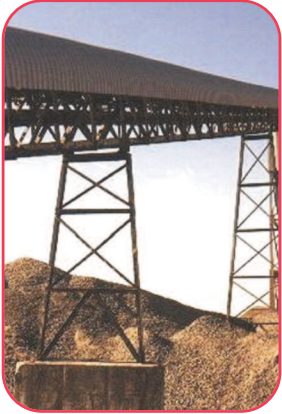
- Gives users the freedom to choose the most economical transport
- All moving parts are placed over the pay load, no direct contact with abrasive or hazardous elements.
- Capacities up to 60 m<sup>3</sup>/h possible
- Low energy costs
- Fewer replacement parts giving lower maintenance costs and less down time.

## HOOK-LIFT PUSH FLOOR CONTAINERS

For smaller scale transport of alternative fuels, another alternative is to use the hook-lift push floor containers. These units are specifically designed for transportation with hook-lift lorries. There is an outlet at the back that is then docked with the site intake conveyor for feeding fuel to the boiler. Material is discharged from the container using an integrated push floor which is a first in first out system. The containers can be supplied complete with integrated power pack or can be operated using a permanent on site power pack. Typical applications include wood chip boiler feeds.



## CONVEYOR COVERS TO OUTLAST CONVEYORS



Since their launch ten years ago, Traffield conveyor covers have been installed across the world. They have gained a reputation for cost effectively solving dust containment problems in many diverse industries. By listening to our customers, the range has been extended to meet a broad scope of operational requirements. Since the merger of our two companies, Traffield conveyor covers are available through Renby Ltd

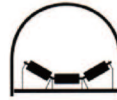
### Innovative Design

Traffield conveyor covers boast an innovative self-supporting design which eliminates the need for transome hoops and so delivers the following benefits:

- Lower cost per metre compared with conventional designs, so reduced capital cost.
- Reduced downtime for installation plus lower installation costs.
- Robust but lightweight steel construction and unique high technology coating means the covers last and last.



TC180



TC120



TC120 & Side Covers



Field Conveyor Covers



### Choice of Four Designs

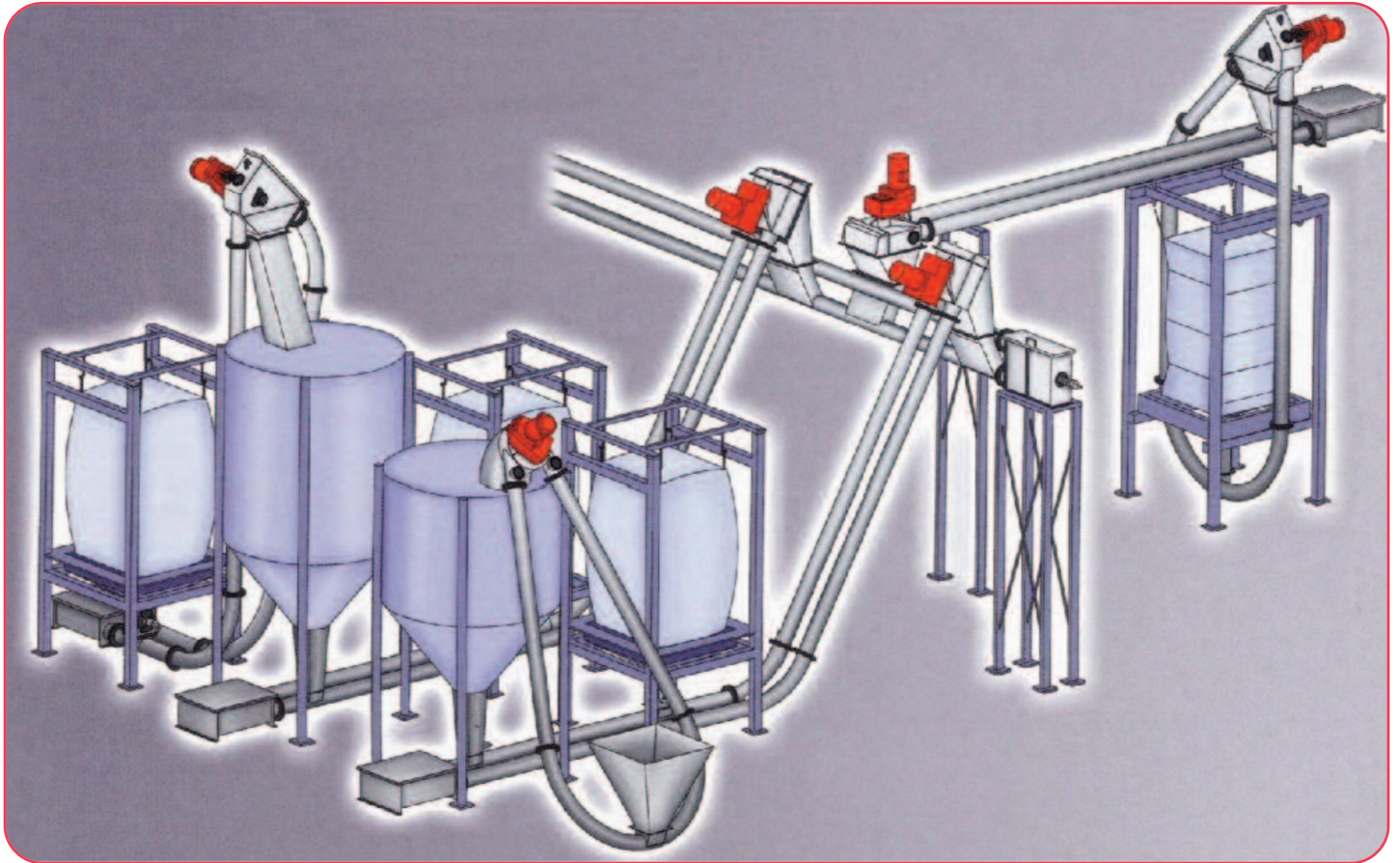
With Traffield covers, you have a choice of four designs:

- The TC180 which provides total enclosure on conveyors requiring maximal containment.
- The TC120 which encloses the top and a side, allowing visual checks from a walkway on the open side
- A combination of the TC120 with a specially designed side cover which completely encloses the conveyor but allows rapid access when required.
- The field conveyor cover which is mounted on a special frame and allows replacement of suspended roller sets without having to remove the conveyor cover.

All of these meet the following criteria:

- Fully meet the EPA regulations and local environmental planning considerations
- Robustly manufactured in 0.7mm zinc galvanised steel to withstand light spillage of quarry material.
- Factory coated with a long lasting, abrasion resistant, multi-layer coating.
- Can be specified to fit any stringer width from 850-1800mm (others by arrangement).
- Can be fitted to a new installation or retrofitted to an existing scheme.
- Available in a wide range of colours to comply with corporate identity and local planning requirements.





### TUBE CHAIN CONVEYORS GO WHERE OTHERS FEAR TO TREAD

The conveying of bulk materials is often challenging. The ability to solve spillage problems requires a broad range of tools to address the issues. Powders can be abrasive, sticky, fluidise readily etc. The trick is to use a conveyor that ensures that all material delivered at the loading points is discharged at the outlet and eliminate fugitive dust. An ideal and very versatile tool for this is the tube chain conveyor from Schrage Rohrketten-system GmbH. It is a solution looking for a problem. Renby is delighted to offer this incredibly flexible system. There are many installations throughout the British Isles whereby our customers have successfully solved conveying applications that were not possible with any other system.

The tube chain conveyor is able to convey a broad range of products from dry powders right through to wet sludges. It can convey horizontally, vertically or at any angle in-between. Schrage conveyors are also totally dust tight and are perfectly suited to applications where spillage must be eliminated and / or is unacceptable.

Available in a range of different sizes, most application requirements can be covered by the system. The system is quite at home handling abrasive or sticky materials and as the material is moved in what are effectively moving pockets, product segregation is virtually eliminated. The system is readily available in ATEX versions from rating ATEX 20 to ATEX 22 as well as safe zone operation.

In many cases, by working together closely with our customers, we have been able to provide a solution that had hitherto been insoluble.

We are the only company in Europe that can offer the unique combination of tube chain conveyors and moving floor systems under one roof. Renby is the first choice for the transport, reception, and conveying of your bulk materials.

### How The Tube Chain Conveyor Works

The conveyors consist of a series of disks attached to a chain. This assembly is drawn through a tube, which completely encloses the conveyed material. The chain runs as an endless loop and is drawn through the tubes by a rotating drive sprocket, fitted at the head end of the conveyor. Whilst the tube chain conveyor may look like other types of conveyor, for instance, rope and disk based systems, it works in a totally different way. The chain speed in the conveyor is slow, with a maximum speed of 450mm/s. The conveyors also consume a minimum of power; from the smallest conveyor - 0.25 kW (about the same as a modern desktop computer) to convey 0.45 cubic metres per hour ranging to 11kW to convey a massive 60 cubic metres per hour (m<sup>3</sup>/h). This means that your energy consumption is kept to a minimum and saves you money.



Any number of inlets or outlets can be provided to match the requirement of your application. The conveyors will also convey around bends at any angle and in any plane.

## Available Capacities

Tube chain conveyors are available in five sizes:

**Type 115:** 0 -> 7 cu. m/h

**Type 135:** 0 -> 16 cu. m/h

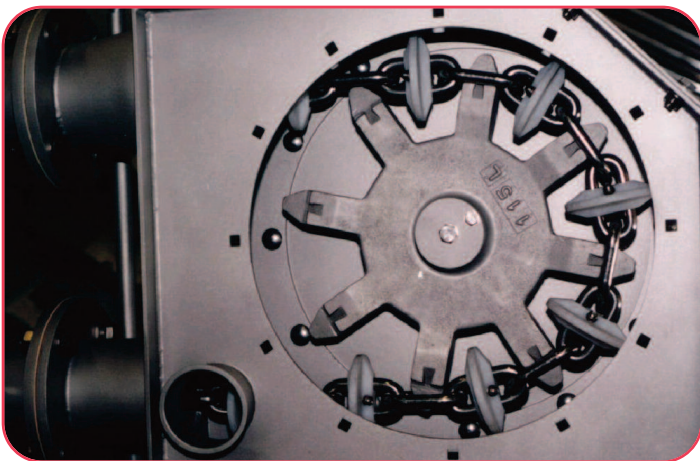
**Type 160:** 0 -> 25 cu. m/h

**Type 200:** 0 -> 40 cu. m/h

**Type 270:** 0 -> 60 cu. m/h

In every case, they can run, start, stop either empty, full or any combination in-between. This allows full versatility with the control system so that you can dictate what the conveyor does rather than be dictated to by the conveyor.

A single conveyor can run horizontally for up to 50 metres or it will elevate product vertically 30 metres.



## Maintenance Requirements

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

## Benefits

- Low Wear Rates, so Low Running Costs
- Modular Construction - the conveyors can grow with your application
- Low energy consumption gives low running costs
- Minimal product retention in the conveyor minimises cross contamination
- Self cleaning system
- Totally dust tight, no spillage means a clean working environment
- Gentle product handling - keeps the value in your manufactured product
- Fits into tight spaces - often, the tube chain conveyor has been the only system that meets the customer's specific requirement.
- ATEX versions readily available can contain the pressure wave of an explosion
- Will start up empty or fully loaded giving flexibility in the control system
- Many patents filed - ensures that you are dealing with a world leader
- Over 2500 installations world wide

## Product Evaluation

When conveying bulk materials, it is always best to consider a trial of the product. The system below is a part of the extensive test facility at Schrage Rohrketten-system HQ in Friedeburg, North Germany. Customers are always welcome to visit the company and the large test hall can prove most applications.



## CONTROL OF ODOUR AND DUST



Fogging systems are proven to be an effective method for dust suppression, dust abatement, and air filtration. They also control flies, and suppress odour causing pathogens. Utilising a simple pressurised water supply, the Renby Micronfog™ System is far less expensive to operate and maintain than traditional compressed air systems. The fogging systems can even be used to economically remove workplace related odours. The systems are designed for both interior and exterior applications.

The Renby Micronfog™ System produces a high concentration of 10 micron fog droplets. This size of water droplet (10 millionths of a metre in diameter) provides optimum performance for attraction and suppression of PM 10 and smaller dust particles. The system offers respirable and fugitive dust suppression from .1 to 1000 microns. Dust surrounded by dense fog has little chance to escape. Because of the high standard of quality and industry experience, Renby Micronfog™ Systems meet or exceed the EPA PM 10 standards for dust suppression.



Applications include; Asbestos Abatement, Coal Dust Suppression, Quarries and Rock Crushing Equipment, Grain Silos, Slag Works, Conveyor Belt Transfer Points, and Construction and Land Development Sites.

In addition to the ability to provide dust suppression, fogging systems are ideal for eliminating the odours associated with solid waste treatment facilities, microbial decomposition of animal waste, and noxious volatile compounds.

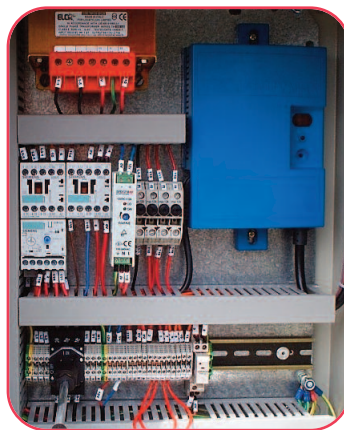
Masking or neutralising agents can also be added to the water feed. The quality components and proper system design of the Renby Micronfog™ System allows for an efficient and economical delivery system for all odour removal chemicals.

## High Pressure Pumps

The Renby Micronfog™ pump range includes the highest quality pumps on the market. They are designed for energy efficient and trouble-free 24/7 operation under continuous duty in adverse or extreme conditions. These units are the preferred choice for all applications under all conditions when quality and value are the primary considerations. Pump components include stainless steel valves; forged brass manifold and valve caps; solid ceramic plungers; hardened crankshaft with one-piece white bronze connecting rods; and special NBR based fabric reinforced rubber seals.

The components used in the pumps provide the highest quality of any high-pressure pump available.

- Energy Efficient Motors
- Pump speed matched to the application.
- Slower speed equates to less operating cost, quieter operation, longer life, and less maintenance
- Oversized pump module operates at a fraction of the capacity.
- High quality, high value pumps at competitive prices



## Control and Filtration

Water filtration is an essential addition to any system, due to the extremely small orifice for all our fog nozzles

We supply a standard control and filtration panel that takes care of your typical filtration requirements. Supplied mounted into cabinets, this unit is ready to start as soon as it has been mounted. Inside there are two filtration stages, an electronic water softener (eliminating softener chemicals) and a UV lamp disinfection unit as a final protection of the water.

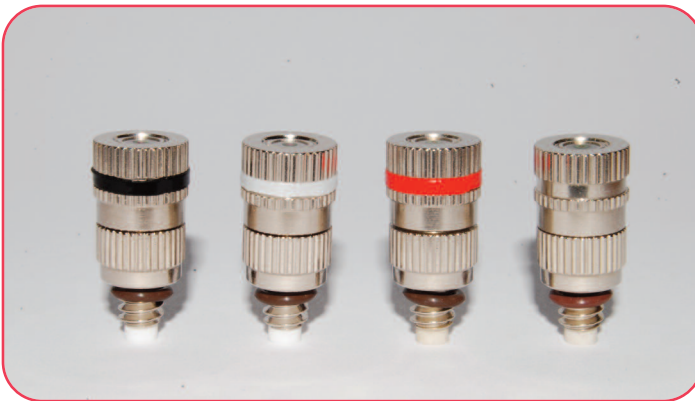


## Slip Lock Fittings

Renby Micronfog™ high-pressure nylon tubing and slip-lock fittings are designed for the ultimate in convenience and versatility. The ease of assembly allows for quick and simple installation reducing labour costs.

The slip-lock fitting and nylon tubing can be used to create virtually any nozzle spacing allowing on-the-job customisation that is unique to these components. No special tools or crimping procedures are required.

## Precision Nozzles



Renby Micronfog™ nozzles represent the highest quality fog nozzles available. They have been laboratory tested to ensure they perform as designed and will provide atomisation as small as 1 micron with the majority of the droplets being between 5 and 15 micron. To consistently create droplet sizes as small as 1 micron in diameter, exacting specifications must be followed. Quality nickel plated brass alloy and laser drilled ruby are used in the production of the nozzles. A range of flow rates are available, from 0.02 litres per minute (lpm) to 0.19 lpm.

All nozzles contain an o-ring seal and can be easily installed and removed by hand without the need for special tools. Specific nozzle performance is available upon request.



## THE NEUTRAPAK for ODOUR CONTROL

Renby's Odour Control System uses The Neutrapak - a natural product with an effective, low cost odour control solution.

Unlike traditional methods of tackling odours which simply mask the problem, Renby's Neutrapak neutralises the odour molecules by bonding them into a non-odorous compound. The product consists of small dry pellets containing natural plant oil odour neutralisers that release at a slow, steady rate. Extensive research has identified a range of plant oils, each one effective against a specific odour, so each Neutrapak is 'customised' with a plant oil to tackle each specific odour.

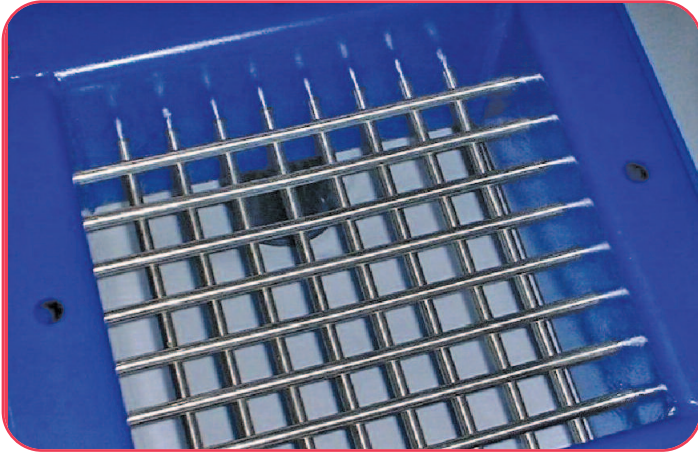
Effective in industrial, agricultural and amenity environments, The Neutrapak starts working immediately on exposure to air. They are conveniently supplied in discreet, easy to attach mesh pouches designed to optimise airflow over the granules. The pouches are c. 80cm long x 4cm in diameter and are suspended 2 metres from the ground at 2 metre intervals. No equipment, power or water is required, so it is ideal for use in remote or difficult to access sites

Drains, gulleys and tanks/containers can also be treated during routine cleaning as can ponds and other stretches of contained water. The Neutrapak continues to be effective for up to 90 days as long as it is not covered by snow or debris, and produces no harmful waste products.

## CHUTE PROBLEMS SOLVED!

Transferring bulk materials through chutes is an essential part of any process, but is often given little consideration. Renby Limited have a range of tools that will help you keep your materials flowing and at the size you require.

### Renby Sentry Grid



There are many processes where a rigid mesh has been fitted to stop oversize lumps passing. Whilst these are effective some of the time, they are very prone to product build up and blockages due to bridging.

The Renby grid provides the answer for this. "Powered by Gravity", this patented unit consists of a special design of bar which automatically moves as material passes through. The automatic movement of the bars prevents blockages and continuous flow of material results. It can be used to protect sensitive equipment downstream of the chute or to separate out contaminants such as big bag polypropylene strips and other types of tape.

### Renby Active Sentry Grid



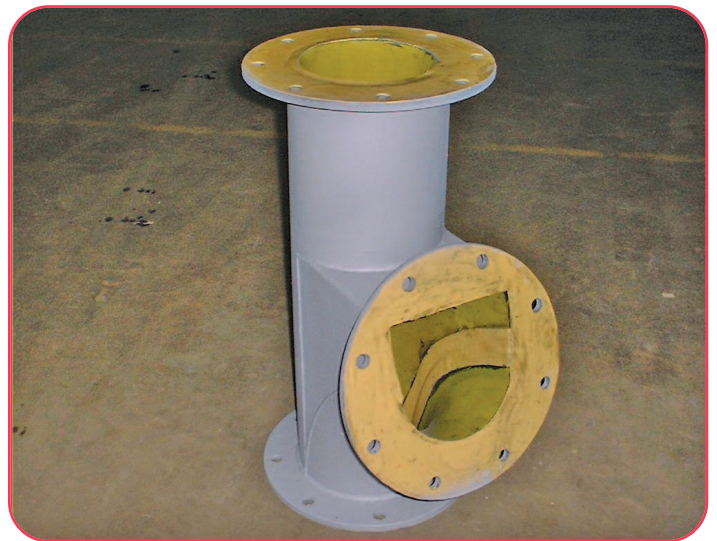
A further enhancement of the Renby Grid, this unit is designed for bulk materials that bridge readily such as sawdust or peat. Materials such as these are readily self supporting over openings that are much larger than the typical sort of mesh size required to protect devices such as rotary valves.

The patent applied for Renby Active Grid gets around this by having a series of bars that are driven such that they move under the material. A series of fingers scrapes the underside of the bridged material. This scraping action causes a larger arch to form which then collapses and the bulk material starts to flow again. The unit was designed specifically to catch foreign objects that might inadvertently find their way into large deliveries of bulk materials.

### Chute Linings

Often, plain steel chutes are insufficient for an application. We offer a complete range of chute linings such as:

- Rubber Linings - for wet and abrasive materials such as sand.
- Polyethylene - to promote flow
- Hardened or Hard Faced Plate - for mildly abrasive materials
- Ceramic chute linings - for highly abrasive materials



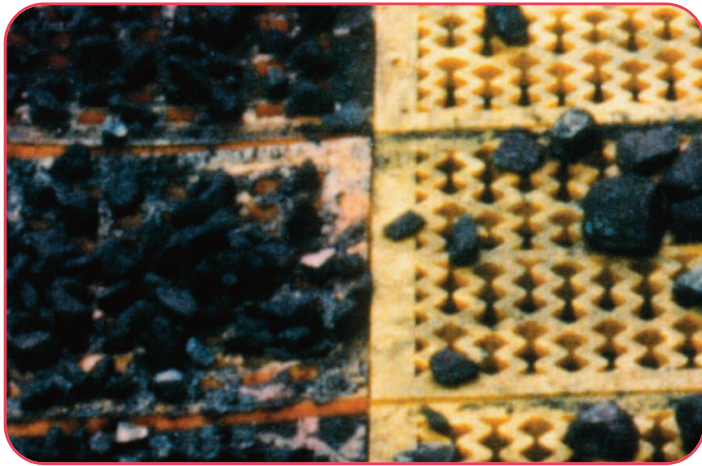
## SCREEN MODULES

We supply a full range of screen media in polyurethane, rubber, woven wire and punched steel. We also supply adapters for use with other systems, EPDM capping rubber, fixings and rubber covered side clamps.

### Standard Screening Media

Three broad types of standard polyurethane and rubber screening media are available from us:

- rubber covered steel plate, flat frame reinforced, or angle iron reinforced to provide self supporting screens
- ultra wear-resistant rubber tension mats with low stretch fabric reinforcement
- standard polyurethane screen modules.



### Anti-Pegging Screen Modules

'Zigzag' modules vastly improve separation

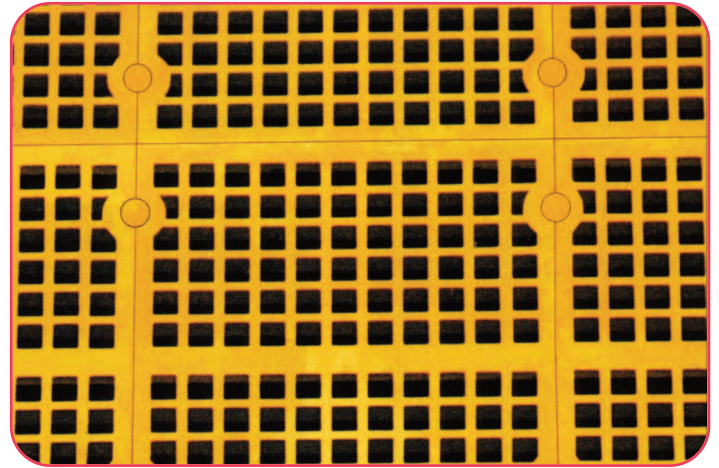
The new easily-assembled 'Zigzag' screen module consists of wavy horizontal polyurethane strips which vibrate to assist self-cleaning. The absence of transverse rods creates a larger screening area and yields a clear increase in screening performance. Other benefits include:

- low wear hence long working life
- self-cleaning action minimises downtime
- mesh sizes from 2.0 to 32.0 available

### Maxi Screen Modules

The new 'Maxi' design of our polyurethane screen module increases output and makes the screened material more rapidly available.

Easily installed, the small rib width of the new 'maxi' panel ensures maximum open area and maximise screening efficiency.



*Maximise open area with the 'Maxi' panel*

### Universal Polyurethane Nozzle

Our universal polyurethane spray nozzles are manufactured from the same hard-wearing lightweight plastic as the above polyurethane screens, so they last and last.

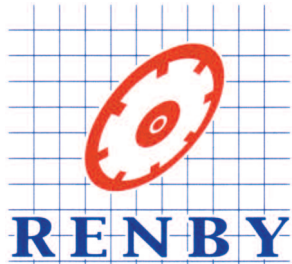
They are specially designed to deliver a broad and even spray with minimum water wastage.



*Hard-wearing universal spray nozzle*

Further benefits include:

- standard 3/4" BSP fitting for quick replacement
- efficient under high and low water pressures
- resistant to corrosion and clogging
- easy self-cleaning mechanism
- small size minimises height clearance required
- wide spray width minimises number of nozzles needed.



## Company Profile

Renby Limited is a family owned and managed company dedicated to working for a sustainable, cleaner and safer world. The Company's extensive experience has led to a product range that focuses on environmental solutions. These products are selected on the basis of proven technologies that will save money for customers. At the same time, by eliminating wastage and reducing power consumption in the workplace, they help to improve the environment. For instance, Renby systems installed in the last few years have enabled industry to reduce coal consumption by 100,000 tonnes a year.

Renby's Managing Director, Robin Travis, says "In the 1970s, I was fortunate enough to spend some time in Northern Europe and saw first-hand the effect of pollution passing from one country to another. This awareness, coupled with the urgent need to address Climate Change issues, has been a major factor in the direction I have chosen for the Company."

With a history stretching back over 40 years, Renby has successfully provided solutions for industrial bulk materials-handling problems through a range of innovative products. These are used within a host of industries including waste and recycling, chemical manufacturing, water and sewerage and agriculture - in fact any environment where dust, pollution and odour are involved.

Renby recognises there are always new problems to be solved or new ways of solving old problems and is constantly seeking new cost effective solutions for its customers. If Renby is unable to source an existing solution, it devises its own. Renby holds two current patents and its forerunners have held a further four patents.

Renby Limited was formed in 2001 by the amalgamation of B. Travis & Co. (Engineering) and Traffield Engineering Limited.

# Practical Solutions for Your Sustainable World

## Renby Limited

Tarvin Mill, Barrow Lane,

Tarvin, CHESTER CH3 8JF UK

tel: 01829 740913 fax: 01829 740574

e-mail: [info@renby.co.uk](mailto:info@renby.co.uk) www: [www.renby.co.uk](http://www.renby.co.uk)

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