STORTH

EXPERTS IN SLURRY MANAGEMENT

SCRAPE IT

Storth's 25 years of experience in servicing and maintaining scraper systems has allowed us to develop a range of the most versatile and cow friendly scrapers now available on the market. As well as manufacturing hydraulic, pro-rope and chain systems we offer full service, maintenance & parts throughout the UK and mainland Europe.

Automatic **Slurry Scraper** Systems

Specialist Manufacturers of slurry handling equipment

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Manufactured in the UK

www.storthmachinery.co.uk

Automatic Slurry Scraper Systems

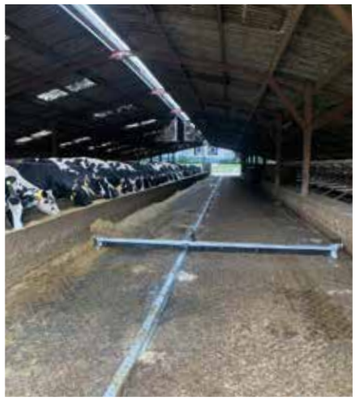
With over 30 years of experience working with Slurry Scrapers, Storth design their systems to safeguard the welfare and hygiene of the herd, providing the most cow friendly systems on the market.

Our sales team work hand in hand with customers to ensure that scraper systems are designed and built to fulfil both individual and specific requirements. Using the most up-to-date materials, processes and components, Storth have become recognised as one of the leading manufacturers in the marketplace today.

At our own factory, based in Lancashire UK, we manufacture three types of automatic scrapers, so we are sure to have a system to suit your building and your needs. Buildings are all different; some have uneven passages, different lengths, no space outside the building and different collection points for the slurry so the Storth range gives a variety of options to suit the situation on your farm.

We provide a full Service and Maintenance programme across the UK.

Hydraulic Ratchet System



Rope Systems

Chain System

Channel & Under Slat Scraper

Backing Gate

Yard Scraper

Hydraulic System

The Storth Hydraulic Scraper System has been designed to provide unique options unrivalled by any other hydraulic scraper systems on the marketplace. Manufactured with high-quality components and stringent engineering practice, we will provide you with a professional system that requires minimal maintenance with a long life cycle. Using our 30 years of experience we deliver the design, installation and service that is needed to suit your buildings and your requirements to have a trouble free system for many years.

There are several choices to make when tailor-making your hydraulic scraper system:-

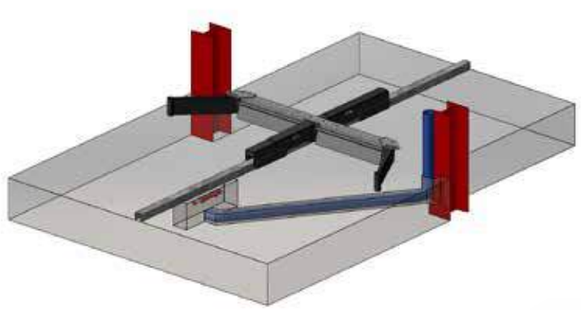
- Sunken or above ground ram boxes
- Single or double pump power units
- Standard or reverse dragbars
- Eco or heavy-duty central track
- Offset scraper flights or folding
- Scraper backing gates

Sunken or Above Ground Ram Boxes

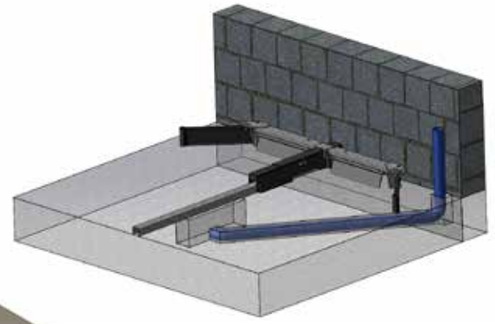
We provide a choice of either sunken or above ground ram boxes to suit your building.

The sunken ram box is placed in a sump anywhere in the passageway which is cut out of the floor, giving complete flexibility in the position of the ram to where the scraper flight parks. Having no electrics in the sunken ram box gives a trouble free life around the environment it works in. Above ground ram boxes are used when there is room outside the building or inside if there is low cow and vehicle movement; all components are protected by a 4mm chequered plate cover.

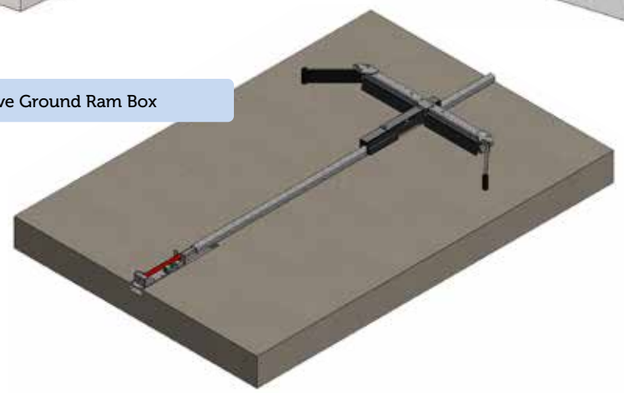
Passover Sunken Ram Box



Standard Sunken Ram Box



Above Ground Ram Box



Storth Track Options

Storth have a traditional hydraulic ECO track system where the track runs on the concrete floor. In addition to this, Storth also offer a 'PRO' track, which has a galvanised base steel track, 120mm x 6mm, along which the top track runs and is lubricated by slurry. This prevents the top track wearing into the concrete, allows minimum wear on the track and gives great flexibility in uneven passages.

All tracks are fully galvanised and come in four options:-

- ECO: Folded round profile track (75mm x 37mm x 4mm x 3000mm) which gives a cow friendly curved corner track. Bars are welded inside to locate on to the floor mounted guides; each section is joined together with four M12 bolts and heavy-duty spring washers to keep each section firmly connected together.
- PRO: Consists of the 'ECO' top track and an additional galvanised base track (W 120mm x D 6mm x L 3000mm), this is rawlbolted to the floor three times per section. Two guides are welded to the base track to keep the top track firmly in position.
- HD: Consists of the HD track (76mm x 38mm x 6.7mm x 3000mm) and a galvanised base track. This track is used when there is constant vehicle movement over the track which gives the track a greater strength.
- SAND: Storth have a specific type of tracking for sand, this is better suited to survive the harsh conditions associated with sand bedding. This track consists of the 'HD' top track and floor mounted guides to keep the top track firmly in position.

ECO

PRO

HD

SAND

Hydraulic Power Units

Storth offer two types of power units for hydraulic systems, these have the capacity to run up to six passages from one power unit. We are the only company who can offer a unique double pump power unit allowing two passages to run at the same time at the same speed. This is achieved by the 2.2kw motor turning a tandem oil pump to produce the same amount of oil to each ram allowing the passageways to be cleaned faster and more regularly, preventing any build-up of slurry in the passageways providing a healthier, more hygienic environment for the stock housed inside.

Our single pump unit operates one passage at a time and is achieved by turning a single oil pump to provide oil to the ram, commonly used by other companies in this sector, the unit can operate up to six passages also.

The choice of unit depends on the length of passages and the required frequency of scraping.

All our power units have our unique 'Cow Down' protection facility; this is monitored by a pressure transducer sensor which will stop the scraper when a cow is down, wait for one minute, then try to scrape again - if this is not possible, this passage will shut down, (all other passages will be unaffected) and move on to the next passageway.

As all of our power units are built in-house, we are able to use only the highest quality components.

Technical Specifications

1.5kw and 2.2kw Motor (1ph or 3ph)
35 Litre oil tank capacity
240v or 415v Control panel
Suction and return oil filters
Pressure transducer used for safety
24 Programmable automatic sequences

Standard or Reverse Dragbars

We offer our dragbars in either standard or reverse, this allows for versatility when choosing a system. The reverse dragbar option allows slurry to be scraped past the end of the track which is commonly used for cross scraping.

Standard Dragbar & Flight

Offset Dragbar & Flight

Scraper Flights

Our flights are designed to give an even scrape and cleaner passage. The floating flaps are manufactured from 8mm steel and the flight is galvanised, 2 ft outside wings are fitted as standard. Flights can be manufactured to suit any passage width; we offer the option of offset and folding flights.

Offset flights are mainly used in feed passages as we can position the flight and track so the scraper track does not interfere with the herd when feeding. We also offer folding flights, these are used when a vehicle needs access to a passage, they are folded by pulling out two pins.

Reverse Dragbar & Flight

Folding Standard Dragbar & Flight

Backing Gate

Rope System

Through many years of research, Storth have worked hard to manufacture rope systems which suit individual farm requirements due to the use of the right rope.

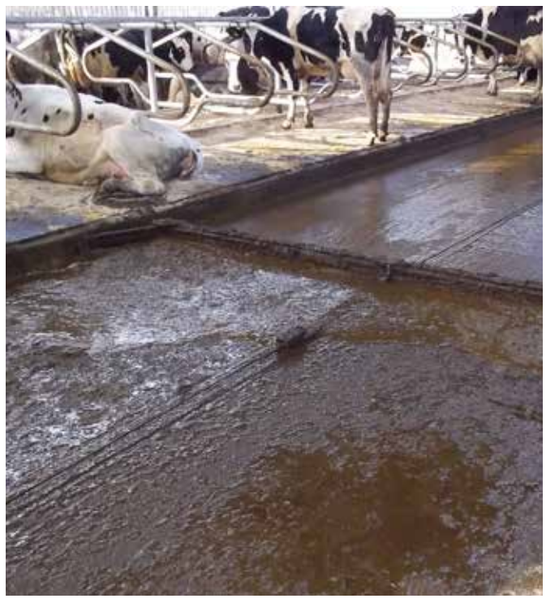
ECO rope systems were initially designed as Storth's entry level point for rope customers. Rope has become popular with many dairy customers who believe that rope could be the most cow friendly method of automatic slurry scraping. Storth's ECO rope is a standard polyester type 20mm rope, suitable for sand laden slurry as well as normal slurry.

Pro-Rope is "the world's strongest fibre", used in many industries including the emergency services, military applications and off-shore drilling rigs. The 11mm rope is pre-stretched polythene which is much stronger than nylon alternatives. In fact it is 30 – 40% stronger than wire, cable or poly-silk rope, with a minimum breaking load of 8.4 tonnes. It has very low stretch characteristics, preventing 'catapult' action, is extremely flexible, light-weight and PU coated, giving maximum life expectancy.

These ropes give us a solid backbone for the rest of the system. The system is run on two winches which allow one winch to pull on, while the other pulls off. Sensors are used to detect the position of the scraper blade, eliminating strain on the motor, corner rollers and rope, therefore prolonging component life. This is a simple system, quiet in operation with low running costs, requires minimal maintenance and is very easy to operate. All systems use 3ph drive winches as we use an inverter in the control panel, this allows a 1ph input into the control panel and delivers a 3ph output to the drive winches giving a more reliable motor and cost-effective power use.

Technical Specifications

Motor – 3 phase 0.75kw 230/400v
Drive unit – oil bath 9.9rpm
Scraper travel speed – 5m/min
Control panel – input 240v single phase
Inverter – 1 ph to 3 ph



Control Panel

This 'state of the art' unit allows complete flexibility to this scraper system.

The unique 'Cow Down' facility senses the animal in the scraper path and backs away one metre from the animal - it waits a minute allowing the cow to move away. If the scraper senses the animal again it will shut down the system until it is manually restarted once the problem is resolved.

The panel has 24 automatic sequences available to set as per individual needs. The 'Park' position can be programmed to be at any position within the passages. Motor amps are monitored on the screen front at all times to protect winches from overload.

Drive Winches

Storth's winches are built on a sturdy heavy-duty frame with tie bars to prevent the rope from jumping off the drive winch and becoming entangled in the drive unit/bearings. Winches can be surface mounted, wall mounted or above head height on purpose-built winch stands allowing great flexibility on space saving options.

0.75kw 3ph motor and gearbox delivers power direct to the drum shaft which rotates on a high-quality bridge bearing on the winch drum end plate, giving a quiet and smooth-running operation. Sensors mounted on the frame control the scraper blade position by detecting a special marker in the rope.

Winch Unit c/w Floor Mount

Winch Unit With Cover

Winch Unit c/w Vertical Stand

Corner Pulley Box

These are manufactured from 6mm steel before being galvanised, providing maximum protection to the inner pulley. These pulleys are cast from high grade steel with a hardened inner bush, allowing smooth rotation on the centre grease pin, resulting in quiet and reliable operation. Floor mounted or vertical pulley boxes are available to suit the building layout.

Floor Mounted Corner Pulley

Vertical Corner Pulley

Chain Scraper System

The Storth Chain Scraper System has been designed and manufactured to a high standard of engineering using quality components and the most technically advanced electrical control system on the market, allowing simple operation, minimal maintenance and a high cycle life. Typically built to Storth's robust engineering, chain systems prove ideal for use in all aspects of livestock farming due to the great flexibility of where we can install a system in buildings with uneven floors, under slats, pig buildings, beef buildings, dairy cow buildings and many more bespoke applications in other sectors. Creating the backbone of the system is our 14mm case-hardened pre-stretched chain to 20 tonnes tried and tested over decades of usage.

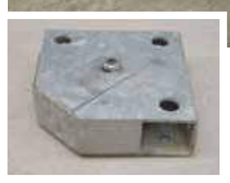
Drive Unit and Corner Rollers

The chain system has a hard-wearing drive unit which can be floor mounted or above ground mounted. The fully galvanised frame helps to prevent against corrosion and the unique drive sprocket is seven-tooth-star-shaped which allows slurry not to dry and clog up the drive sprocket, preventing minimal wear on the sprocket.

Technical Details

Motor - 3ph 0.55kw 1ph o.75kw
Gearbox - oil bath 5.2rpm
Control panel - 240v /415v
Chain – 14mm case-hardened pre-stretched to 20 tonnes

All corner boxes are manufactured from 6mm steel before being fully galvanised. The corner rollers are manufactured from cast steel with two centre bronze bushes which allows the roller to move efficiently and keep its shape; the centre pin has a grease point to lubricate the bushes.



Control Panel

The Storth chain control panel has a 'Cow Down' protection system which monitors the amps used when scraping. If these amps rise it shows there is a cow down in the passage and it will shut the passage down for one minute before trying again; if the obstruction is no longer there the scrape will continue. If there is still an obstruction the scrape will abort. Passage lengths are monitored at the control panel from sensors on the motor fan, this allows accurate park position of the scraper blades which can be set anywhere in the building. The panel can run one or two motors, allowing 4 passages to be scraped from one control panel. Automatic scrape times can be programmed to run up to 24 times a day; manual scrapes can also take place whilst in auto mode.

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A quick tensioning method is used on the dragbar. All scraper blades are made from 8mm steel with the main beam galvanised. We use 14mm diameter chain links which are pre-stretched to 20 tonnes. To minimise wear, the chain is also case-hardened.

Quick tensioning method

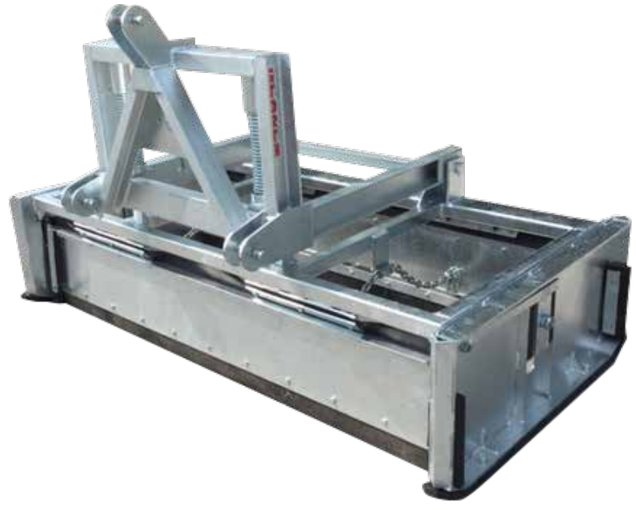
SCRAPER WITH STANDARD DRAG BAR
Options include reverse scraper blade and folding scraper blade

Multi Scraper

Built with "A" Frame and mountable on 3 point linkage, standard on all models. All our yard scrapers are twin bladed, built using hard wearing, high impact strength rubber.

Available in the following models:

- 6ft 1.8m 360kg
- 6ft 6in 2.0m 395kg
- 7ft 2in 2.2m 420kg
- 8ft 2in 2.5m 460kg

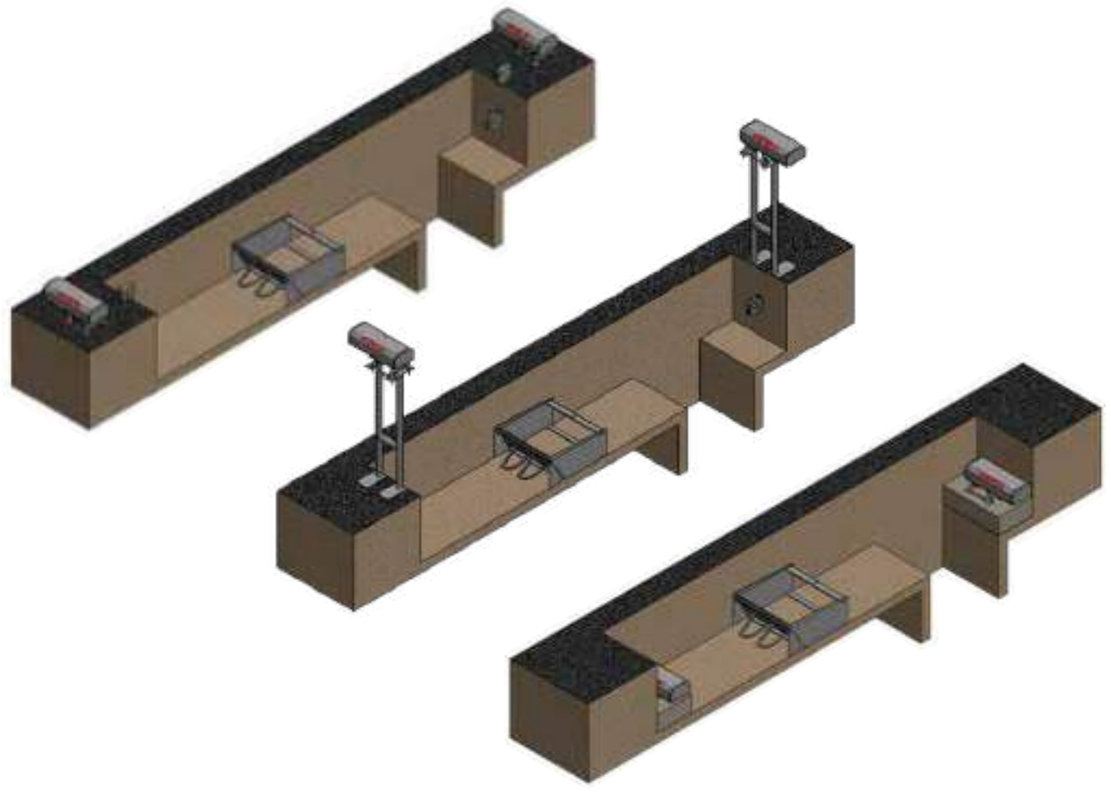


Channel Pro-Rope System

Storth have developed a range of under slat, automatic channel scrapers, designed to remove waste bedding material and slurry from the channel to a reception tank or pit, keeping the channel clear.

It is operated by two winches with 9.5mm pro-rope which has a breaking load of 8.4 tonnes. The box scraper, located in the channel, is moved in the channel by the first winch pulling the rope onto the winch drum, until the box scraper reaches the end of the channel. The scraper will then be reversed by the opposite winch pulling the rope onto that winch drum until it reaches the start position.

The winches can be located above ground on stands, at floor level or channel mounted.



Technical Details

Motor – 3 phase 0.75kw. 230/400volt
Drive unit – oil bath 9.9rpm
Scraper travel speed – 5m/min
Control panel – input 240v single phase
Inverter – 1 ph to 3 ph

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Extensive After Sales Services

Storth offer a full service and maintenance option; either through our Head Office based teams of fully trained service engineers and a strong fleet of fully equipped vans which carry many spare parts as standard, or via our extensive dealer network throughout the UK. Storth Scraper System owners are assured that their machines will always have the full service and support of their qualified and trained engineers, who can readily assess and draft relevant action plans for them.

Storth also provide an annual service contract. Every spring we send a reminder to scraper customers offering a special rate for servicing their systems, helping to keep them trouble free during the winter months.

Over the Phone Technical Assistance

As an added value service, Storth Head Office also provide an 'over the phone' technical assistance service, which can often easily resolve minor issues without the need for a call out.

This is available 7 days a week by phoning the main telephone number. We have an 'out of hours' service available at weekends with engineers on call to provide necessary cover to keep your system running when you need it.

Large Dealership Network

As the top manufacturer of quality slurry handling equipment and machines, Storth's dealership network is vast, making every concern and issue experienced by Storth equipment users easy to resolve.

From the need for parts, which can be delivered via 'same day' or 'next day' delivery if required, to the necessity of on-site estimates, Storth's dealership network countrywide defines Storth's reach in being of service to all of its clients, current or otherwise.

Notes:

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Notes:

SCRAPE IT

PUMP IT

SEPARATE IT

STORE IT

MIX IT

APPLY IT

STORTH

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For additional information and advice please contact your Storth representative

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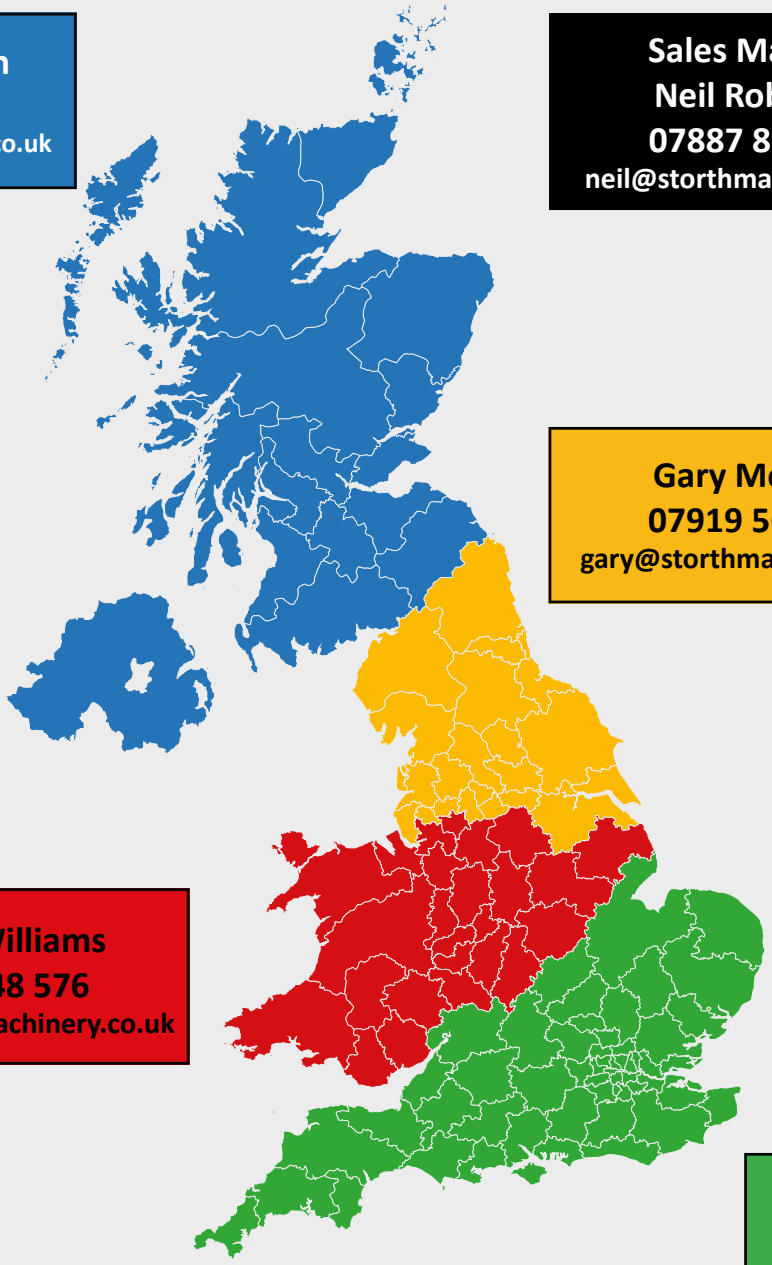

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