

# ALL IS WELL

*Peace of mind with  
perfect spreader reliability*



**BROMMA**

*A Tradition of Innovation*



# SPREADER CONTROL

*With a smooth logistic flow comes peace of mind – then it is easy to be the terminal manager.*

As the terminal manager, you'd like to see things run smoothly on the docks. Containers being lifted on and off vessels without disturbance. Ships moving in and out of the terminal on time.

That's how a profitable terminal works, with happy customers and a bright future in today's fierce competition. Successful terminal operation depends to a very large extent on your crane spreaders.

Spreaders may seem like a minor piece of your terminal's operational puzzle, but they are crucial to the terminal's overall productivity. If your spreaders fail, so will your cranes – and soon vessels will begin to line up under increasing frustration.

Up to 60 percent of quay crane downtime is due to spreader problems. Using the right spreaders and spreader control system and software, you can secure high operational efficiency.



Spreader control is Bromma's home turf since 1965. We invented the telescopic spreader, which made it possible for terminals to accept containers of different sizes without replacing the spreader for every lift. Today, the basic design still rules the world of spreaders.

We continuously meet changing market requirements by introducing new spreader innovations, including the first smart spreader and all-electric spreader.

Our spreaders put you in control of your operations, your maintenance and your costs. And let you experience that desirable feeling that all is well.

# PREMIUM PRODUCTS PAY OFF

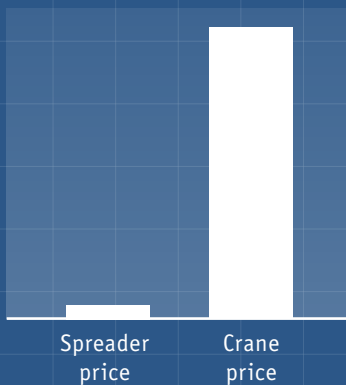
*With spreaders, quality is everything. Or, as one of our customers put it: "Poor product quality may not be visible the first year, but choosing less reliable equipment may prove costly in the long run."*

Low cost products flood most markets. Some of them work well. But a spreader is a different breed of product that requires premium quality thinking. Only the best is good enough, which is why we continue to keep our number one position in the global market. Here is why it pays off to choose Bromma spreaders:

Spreaders are exposed to harsh environments, including changing weather conditions, strong G forces and irregular motion patterns. Only spreaders with proven reliability can cope with the strain, without causing frequent stoppages. Bromma spreaders work, not just the first year, but year after year.

The importance of spreaders cannot be overrated. Spreaders play a crucial role in the logistical chain of millions of products. Every standstill will bring the crane to a halt, keeping ships delayed at berth – resulting in massive additional costs.

Bromma's response to the challenge is to provide spreaders that are acknowledged for their superior reliability. Our spreaders are designed according to the highest quality standards and spiced by built-in artificial intelligence that helps you predict and prevent unplanned operational disturbance.

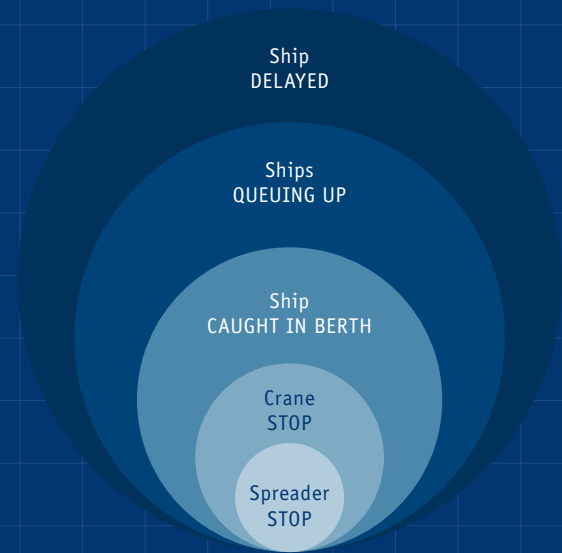


## MINOR INVESTMENT – MAJOR IMPACT

A Bromma spreader is a minor investment that can have a major impact on crane availability and terminal efficiency. A spreader costs less than one percent of a crane, yet it is by far the most important factor to achieve and ensure high crane availability. It pays off to invest in premium quality spreader solutions.

## AVOID THE SPREADER BUTTERFLY EFFECT

If your spreader fails, so will your crane. Then ships will be delayed in berth, and soon vessels will begin to queue up outside the terminal. In worst case, your customers' goods will be delayed to its destination. This "butterfly effect" of unfortunate events can be avoided by investing in premium spreader quality and reliability.



## SWEDISH HERITAGE – QUALITY ASSURED

The Bromma brand carries a proud Swedish heritage. And the spirit of Swedish engineering and entrepreneurial excellence remains strong in our company. A spirit shaped by the successful Swedish industrial tradition that emerged in the 1950s and 60s – which gave the small country international credibility and which resounds worldwide to this day.

The term Swedish quality was coined and became a quality assurance of products deriving from Sweden. Many brands of Swedish origin have over the years taken leadership positions in various industrial segments, including the automotive, power and technology, and pharmaceutical industry.

Bromma has been at the forefront of this industrial tradition for more than 50 years, and will continue to carry its industrial heritage into the future – ensuring quality, reliability and service-mindedness to customers around the world.

# OUR OFFERING

*Alongside a full range of spreaders for cranes and mobile equipment, Bromma offers an extensive portfolio of industrial services and spreader control software solutions to further increase spreader availability.*

## SPREADERS

Bromma can provide a spreader solution for every requirement and type of terminal. Every spreader that we offer – ship-to-shore (STS) spreaders, yard crane spreaders and mobile harbour crane (MHC) spreaders – are available as single- or twin-lift versions.

Our STS spreaders are also available in a Tandem version – a concept introduced by Bromma – capable of lifting up to four 20-foot containers simultaneously. In addition, we provide a wide range of all-electric spreaders, including electric yard spreaders, which are widely used in automation projects.



Ship-to-shore spreader



Yard crane spreaders



Mobile harbour crane spreader



Mobile equipment

## SERVICES

Services are all about ensuring operational reliability. Our service portfolio contains every service you need to keep your equipment operational at all times – services delivered timely and in a friendly spirit, on a global basis.

At our training center, Bromma University, we provide customers with a comprehensive understanding of the spreader itself, the maintenance of the equipment and the latest development of our products.

Besides spare parts, maintenance and repairs, we offer to help customers keep their equipment intact and in pace with time through our upgrade and refurbishment services.



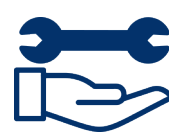
Spare parts



Refurbishments



Upgrades



Service & maintenance



Training

# AUTOMATIC TWISTLOCK HANDLING

Manual pinning is a dangerous job and many accidents are reported every year. With the automatic lashing platform (ALP), it is no longer necessary to carry out dangerous manual twistlock handling under the gantry crane. The ALP is, to date, the only fully automatic system in the market – significantly increasing terminal safety.

The ALP is equipped with special manipulators (for removing or attaching twistlocks) and magazines (for accommodating the twistlocks). Twistlocks are automatically fed to the magazine at discharging and taken out of the magazine at loading – eliminating the manual handling of twistlocks carried out by a pinman.



## GREEN ZONE™

*Green Zone™ is an optional app software package, fully supported by Bromma's spreader control system SCS<sup>4</sup>, which helps further improve terminal productivity.*



**FLEET DOCTOR™**

Offers continuous monitoring of spreader functionality to detect decelerating performance. Fault indications are translated into instructions for service measures that help restore high spreader performance.



**ROADMAP™**

The most important KPIs as well as the most commonly occurring faults, which historically have impacted spreader fleet performance, are presented. This enables terminals to focus their service and maintenance efforts.



**WORK ORDER™**

There are always maintenance activities that are more urgent than others. Work Order allows terminals to prioritize activities based on actual spreader usage and moves made, providing a dynamically updated service plan.

# THE MODERN TERMINAL

*Bromma spreaders are at the heart of today's advanced and automated terminals. Automated yard handling requires extremely reliable yard spreaders in order to ensure uninterrupted operation and high terminal efficiency.*

Bromma delivered the spreaders for the first yard automation projects in the 1990s, and have continued to lead the way with automation-ready products ever since. Thanks to our deep understanding and experience of terminal processes, we have played a key role in most automation projects carried out around the world.

A key success factor in our automation solutions is our eco-friendly, all-electric spreaders, which offer very high operational reliability.

Reliability can be further improved by using our renowned spreader control system. The latest version, SCS<sup>4</sup>, makes it possible to keep track of degrading spreader performance, before it is allowed to develop into a fault.

Any potential problem can therefore be scheduled to be fixed during planned stops, instead of causing unplanned standstills and disrupting yard crane automation.

Using SCS<sup>4</sup> and Green Zone, you can access operational data from each spreader, which allows you to take on a fleet management perspective on your spreaders. All spreaders can be monitored from a central point in a remote control room.

Our solutions offer you the control and overview necessary to optimize crane operation, maximize overall terminal efficiency – and enjoy a little bit more peace and quiet at work.







## Fleet management

It is easy to monitor data from a fleet of spreaders from a single point. Bromma's Green Zone extends the reach of spreader data to the Internet. This means that spreader data becomes transparent for e.g. operations and service personnel, allowing terminals to monitor spreader fleet performance.

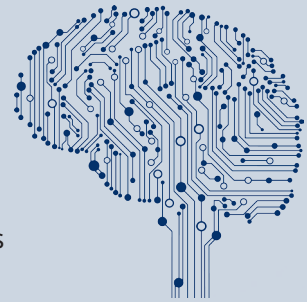
## All-electric yard spreaders

All-electric yard spreaders are ideal for terminals who want to introduce automated yard handling. All-electric spreaders provide the exceptional long-term reliability necessary to automate the handling of containers.



## Automation-friendly

SCS<sup>4</sup> adds further to the spreader reliability needed for successful automation projects. Based on A.I., the control system predicts and helps customers prevent potential problems.



# A TRADITION OF INNOVATION

*In 1965, Bromma embarked on a journey of repeated spreader technology breakthroughs, a journey that continues to this day and will do so in the future. Among our inventions are many global market "firsts" that changed the course of our industry.*

## First smart spreader

In 1995, Bromma changed the world of logistics through its release of the world's first smart spreader. It was a response to increasing demands from the terminal industry for higher crane availability.

By integrating an intelligent control system into the spreader, Bromma made it possible for technicians to monitor operational parameters and diagnose problems.

1995

## First Tandem spreader

The ever-larger vessels and ever-increasing pressure on terminals to manage more containers call for ever-more creative solutions.

When we introduced the first Tandem spreader in 2003, enabling the simultaneous handling of two forty-foot containers, it was a step change in capacity increase for terminals around the world – theoretically reducing handling time by half.

2003

2001

2007

## First all-electric spreader

When Bromma launched its first all-electric spreader in 2001, it was the start of a shift in the spreader industry, from hydraulic to electric spreaders. For many years, Bromma was the only supplier offering an all-electric spreader.

Today more than 95 percent of the yard spreaders delivered by Bromma are all-electric, each one originating back to its global "first" from 2001.

## Predicting spreader problems with A.I.

Quickly identifying a fault to reduce downtime duration has been a key strength of Bromma's control systems ever since the launch of our first smart spreader in 1995.

With the introduction of the SCS<sup>3</sup> control system, using artificial intelligence, terminals were able to take a new perspective on maintenance – shifting from costly corrective to intelligent predictive maintenance.

### Load sensing system

Already in 2010, Bromma came up with an easy way to weigh containers. Our twistlock-based load-sensing system offers a solution to weighing containers as part of a crane lifting cycle, thereby preventing the logistic flow in the terminal from being disrupted.

### Automated twistlock handling

The automatic lashing platform (ALP) solves the problem of twistlock handling under the quay crane – fully automatically. Manual pinning is a dangerous job and many accidents are reported every year. Eliminating this manual work increases terminal safety.

The ALP is the only fully automatic system in the market – increasing safety by keeping people at a safe distance from the dangerous area under the crane.

2010

2011

2015

?

### Launch of Green Zone™

Supporting the SCS family of spreader control systems, Green Zone™ extends the predictive capabilities of spreader maintenance. Users can detect degrading performance, view downtime risk areas and prioritize maintenance procedures.

Spending more time on improving performance, and less on correcting faults, opens up new roads to profitability.

### The future?

Like most mechanical products, spreaders will have to become more and more intelligent. An even larger share of delivered spreaders will be electrical, supplied with even more sophisticated software solutions to enable increased automation.

One thing is certain: Bromma will be there at the frontline of innovation.

# THE ENVIRONMENT

Conforming to stringent Swedish environmental requirements, Bromma holds eco-friendliness close at heart – naturally being certified according ISO 14000. Our policy is to proactively approach any environmental issue.

We have clear environmental targets in all of our activities and we take responsibility throughout the product lifecycle – from addressing environmental issues already at the design phase to optimizing the recycling of our materials

## Optimize recycling

In all processes – industrial as well as office administrative – we strive to optimize recycling of materials in order to minimize our ecological footprint.

## Reduce operational impact

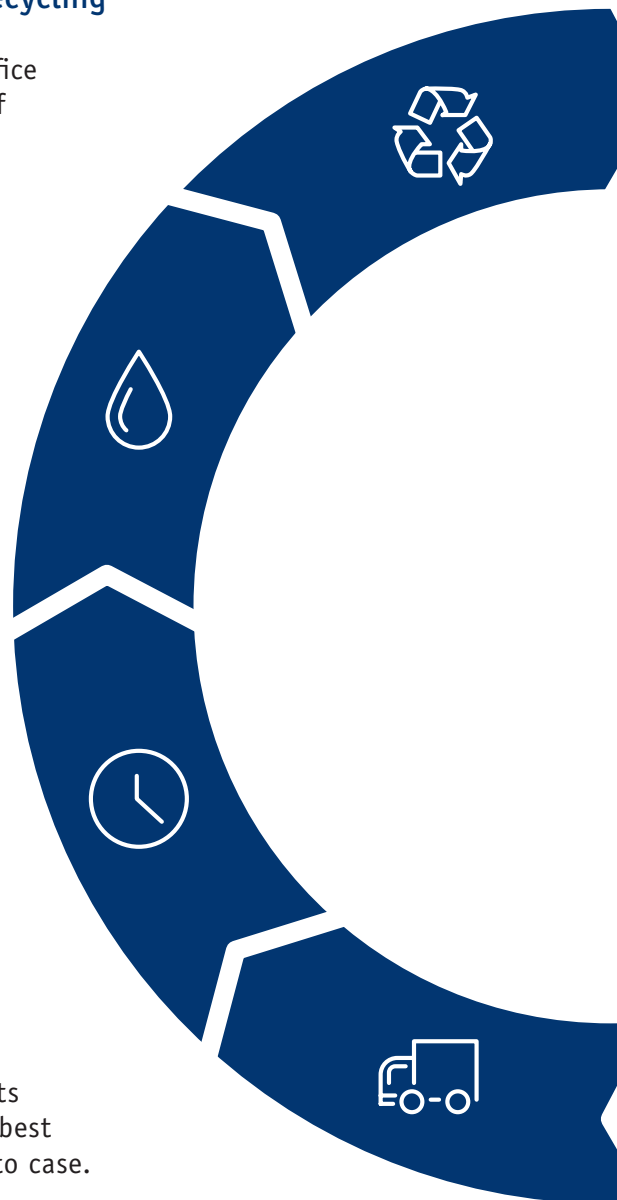
Bromma pioneered all-electric spreaders in 2001. Today, 95 percent of the yard spreaders we deliver are all-electric, contributing to minimizing hydraulic oil spillage in the terminal.

## Optimize lifespan

Like day-to-day operational availability, a long product lifespan maximizes the capitalization of your spreader investment. High quality designs, materials and manufacturing combine to ensure the longevity of Bromma spreaders.

## Optimize distribution

Distribution of Bromma spreaders and spare parts is thoroughly planned in order to select the best possible transportation from case to case.





### Optimize product functionality

A product that perfectly fulfills its intended purpose is an ecologically sound product. It helps optimize processes by maximizing product output while reducing operational downtime.

### Reduce amount of material

Bromma spreader designs use low amounts of materials. Designing with optimized functionality and material usage in mind is always our priority.

### Choice of materials

We choose materials that have a high quality, are tested according to specification and have a documented low environmental footprint.

### Optimize production

We continuously strive to improve our production processes. All steps from raw material to final product is assessed. High-quality steel from European sources is an important contributor to a small environmental footprint.

# MARKET LEADER

## HIGHEST MARKET SHARE

Bromma has been the leading manufacturer of spreaders ever since its formation in the 1960s. Today we have, by far, the highest market share of the world's spreader suppliers. In fact, our market share is higher than all our competitors' combined.

We owe our leadership to our readiness to meet changing requirements in the container handling industry. Our customers can trust us to provide the solutions they need to remain competitive over the years.

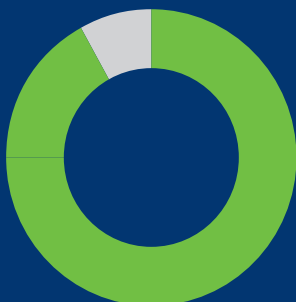
Our leadership is advantageous to our customers. It allows us to maintain presence throughout the world, being close to our customers. Our strong financial status helps us to keep delivering highest quality spreaders, while ensuring our long-term support to customers across the globe.



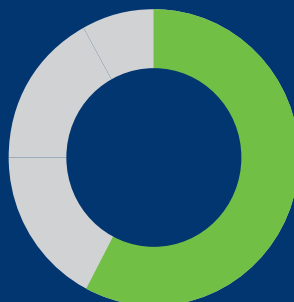
*Ship-to-shore spreader market share*



*Yard crane spreader market share*



*Mobile harbor crane spreader market share*



*Total spreader market share*



# A GLOBAL COMPANY

Bromma is a global organization with an extensive sales and service network around the world. Our spreaders are manufactured in Malaysia, at the heart of the dynamic South-East Asian market.

We have delivered spreaders to more than 500 terminals in over 90 countries on six continents. In all, more than 14,000 crane spreaders and rotators have been put into service, 9,000 of which are still in operation around the globe.

Today, we manufacture close to 2,000 spreaders of all types every year. Our spreaders are currently in use in 99 of the top-100 ports worldwide.

Our sales and service network has a wide-reaching footprint. We are present with own sales offices on all continents, and with an extensive network of agents, we are able to support customers in every country in the world.



