BROMMA


# Ship-to-shore spreaders

bromma.com

# The most reliable spreader partner

Bromma spreaders are designed to thrive in challenging conditions, consistently delivering unwavering productivity, reliability, and durability for your terminal operations.

**Lifting The Efficiency Of Terminal Operations**
In the realm of terminal operations, the ship-to-shore spreader may seem like a small piece of the puzzle, accounting for just over 2% of a container crane's cost. However, its performance is paramount in the economic success of container handling. Terminals that optimize ship turnaround times gain a competitive edge, leading to increased market share, improved berth utilization, and enhanced pricing control. Spreaders that fail to meet expectations result in higher terminal costs, including repairs, downtime expenses, and additional capital investment for spare parts. However, the most significant cost of underperformance is the strain it puts on a terminal's relationships with customers and its growth prospects.

For over 50 years Bromma has delivered spreaders to more than 500 terminals in over 90 countries on 6 continents. All in all, more than 20,000 crane spreaders and rotators have been put into service. In addition, more than 10,000 of these are still in operation today. With a portfolio encompassing spreaders for FLTs, Reach Stackers, and Straddle Carriers, Bromma delivers more than 2,000 spreaders each year. Bromma dominates every segment of the crane spreader market, including ship-to-shore, mobile harbor, and yard solutions. When you choose Bromma as your partner, you're aligning with the most experienced and reliable spreader company in the industry.

**The New Frontier**
Innovation is a Scandinavian tradition, and is embedded in everything Bromma does. Bromma has made a habit of finding the new frontier – with the first telescopic spreader, first twin-lift spreader, first all-electric crane spreader, first true lightweight spreader, first advanced spreader communications and control system, first advanced safety technology, such as Twin-Twenty Detection System (TTDS), and the first twin-40' and twin-45' spreader, called Bromma Tandem™. At the frontier where the future is created, Bromma R&D has made a habit of giving terminals the tools needed to take performance to a higher level.

**Bromma has delivered spreaders to more than 500 terminals in over 90 countries at 6 continents.**

**Value-Driven Product Development**
Bromma is well-acquainted with the demanding world of container handling, where terminals face relentless environmental challenges such as scorching heat, humidity, torrential rain, snow, abrasive sand, and corrosive salt-laden winds. In this punishing setting, spreaders endure continuous wear and tear. Despite these harsh conditions, Bromma spreaders are a testament to resilience, consistently delivering productivity, reliability, and durability even in less-than-ideal situations.

While marketing buzzwords like "design simplicity," "quality control," "manufacturing integrity," and "cutting-edge technology" are often seen as mere slogans, at Bromma, these values form the core of our product development philosophy. They are the key to minimizing spreader downtime and enabling terminals to achieve quicker ship turnarounds and maximize berth capacity utilization.

**All Our Electric Product Family**
All Bromma's electric spreaders are an important step towards creating a safe and sustainable port operating environment. They reduce consumables, lessen CO2 emissions through lower crane power consumption, protect water through the elimination of oil leaks, enhance worker safety, and lower spreader noise. Just as important, they produce spreader lifecycle cost savings that serve to economically justify sustainable investment. Finally, they enhance a container terminal's competitive position through the superior reliability of spreader equipment.

All our electric spreaders from Bromma are strong and light, actually substantially lighter than the spreaders they replace. This significantly reduces annual crane power consumption costs. As a Scandinavian company, Bromma has a history of environmental awareness, and Bromma R&D has for many years made engineering choices, in part, based on environmental concerns. Bromma is committed to environmental leadership in spreaders.

# Why choose Bromma ship-to-shore spreaders?

**Unmatched Experience**
Bromma designed the first telescopic single-lift spreader and has sold thousands of them around the world.

**Reduce Downtime**
Predictive technology through Bromma SCS-Modular and Spreader Monitoring System help fix problems faster and event prevent faults (and downtime) from occuring.

**Cost Effective**
Bromma calculates that a more reliable spreader at a busy container terminal that averages just 0.5 more moves per hour can generate an additional $30,000 USD in terminal profit per year.

In addition a 1.5 metric tons reduction in ship-to-shore spreader weight can produce more than $4,200 USD in annual crane energy savings.

**A Spreader That Shows Up For Work Every Day**
Bromma ship-to-shore spreaders are also known for exceptional durability - often remaining in active service for 12 or more years at high-throughput terminals.




# The E-Series™

## Less Service, Lower Weight, More Uptime

The operational centre of any great container terminal is a highly productive and reliable ship-to-shore spreader operation.

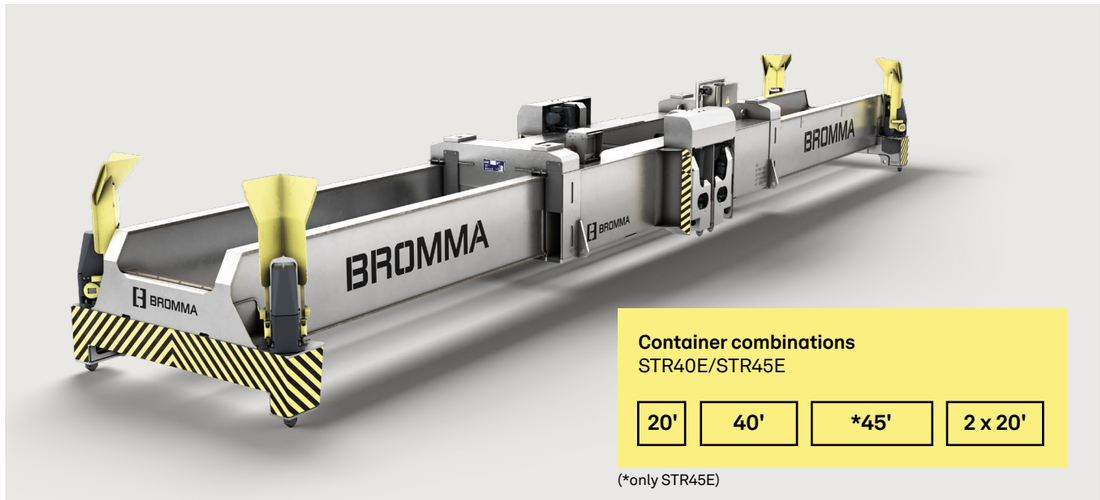
Bromma's E-Series of all-electric ship-to-shore spreaders are loaded with advantages designed to create lifecycle cost savings while boosting fleet uptime.

- **Eliminating hydraulics means** fewer service points, reduced service time and reduced service materials cost.
- **Eliminating spreader hydraulics reduces** spreader power consumption by an estimated 85%. For every 5 kWh consumed by an STS45, less than 1 kWh is consumed by an STS45E.

All-Electric

# STR40E/45E

## Twin-Lift




**Container combinations**
STR40E/STR45E

| 20' | 40' | *45' | 2 x 20' |
|---|---|---|---|

(*only STR45E)

- **Proven design**
- **Lower energy consumption**
- **Reduced spreader maintenance**
- **Simpler - less settings and fewer sensors**
- **Twin lift ship-to-shore spreaders**

The twin-lift spreader enables significant improvement in productivity. Plus, these spreaders can be retracted to the 19'6" position in the event the spreader becomes jammed in the ship's twenty-foot cell. Positioning to the 19'6" position can be controlled by the operator if appropriate controls are furnished in the crane cab.

The control and communications capabilities of Bromma all-electric twin-lift are unsurpassed. Bromma SCS-Modular control system, including a distributed I/O-system, dramatically reduces wired terminal points, while giving terminals advanced functionality, like on-line sensor adjustments, and communications capability, such as transmission of spreader events, logs and alarms.

Finally, Bromma is uncompromising in its selection of components and materials. Materials are selected on the basis of their strength, weldability and formability.

## Technical Data

| | |
|---|---|
| **Lifting capacity** | 51 metric tons, ±10% ecc. load<br>2 x 32.5 metric tons, evenly loaded |
| **Lifting lugs** | 4 x 10 metric tons in the main frame and end beams |
| **Weight** | STR40E: About 9.8 metric tons (without extra equipment)<br>STR45E: About 11.3 metric tons (without extra equipment) |
| **Telescopic motion** | STR40E: 20'–40' in approx. 28 sec.<br>STR45E: 20'–45' in approx. 30 sec. |
| **Flipper arm speed** | 180° in approx. 5 sec. |
| **Twistlock rotation** | 90° in approx. 1 sec. |
| **Twinlift unit up/down** | Approx. 6 sec. |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Max power consumption** | 7.5 kW |
| **Control system** | SCS - Modular |
| **Control voltage** | 24VDC |



All-Electric

# SSX40E/45E

## Single-Lift


**Container combinations**
SSX40E/SSX45E

| 20' | 40' | *45' |
|---|---|---|

(*only SSX45E)

- **Proven design**
- **Reduced routine maintenance**
- **Reduced energy consumption**

Bromma single-lift SSX40/45E spreaders offer strength, reliability, and durability, plus the advantage of lower lifecycle costs. On these all-electric spreaders, many service points have been taken away. There's no hydraulic powerpack and no hoses. There are no fluids, or oil filter, to replace.

This elimination of hydraulics means reduced maintenance time and reduced service materials cost (for oil, hoses, and filters). It will also eliminate many of the "nuisance" downtime events that occur due to spreader hydraulics (bad hose connections, etc.). Making hydraulics history reduces both scheduled and unscheduled spreader downtime.

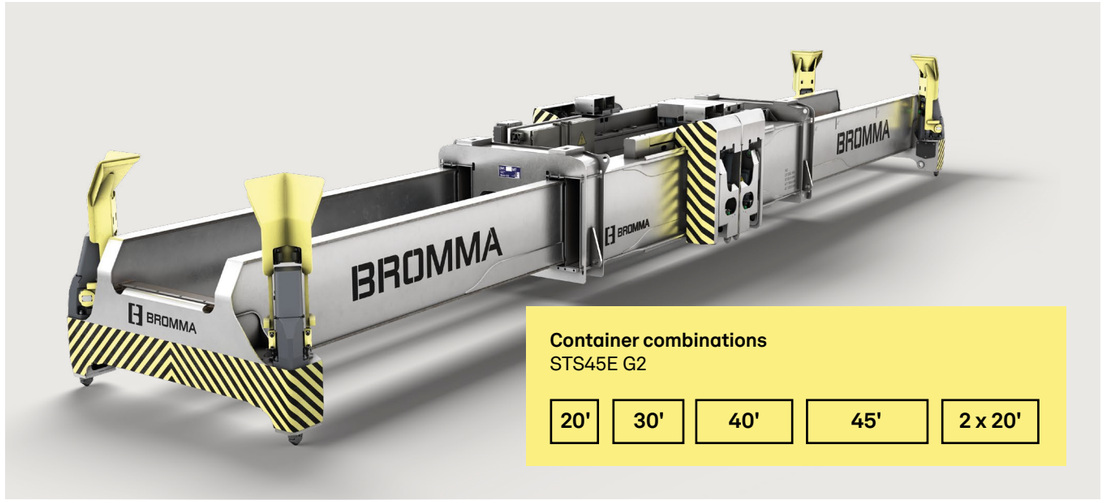
## Technical Data

| | |
|---|---|
| **Lifting capacity** | 41 metric tons, ±10% ecc. load<br>41 metric tons, evenly loaded |
| **Lifting lugs** | 4 x 10 metric tons in main frame and end beams |
| **Weight** | SSX40E: About 8.6 metric tons (without extra equipment)<br>SSX45E: About 9.6 metric tons (without extra equipment) |
| **Telescopic motion** | SSX40E: 20'–40' in approx. 28 sec.<br>SSX45E: 20'–45' in approx. 30 sec. |
| **Flipper arm speed** | 180° in 3 to 5 sec. |
| **Twistlock rotation** | 90° in approx. 1 sec. |
| **Twinlift unit up/down** | Approx. 6 sec. |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Max power consumption** | 7.5 kW |
| **Control system** | SCS - Modular |
| **Control voltage** | 24VDC |

All-Electric

# STS45E G2

## Twin-Lift Separating




**Container combinations**
STS45E G2

| 20' | 30' | 40' | 45' | 2 x 20' |
|---|---|---|---|---|

- **Up to 90% reduced energy consumption**
- **Significantly reduced $CO_2$ emissions footprint compared to a hydraulic spreader**
- **Eliminated risk of hydraulic oil leaks**

The new STS45E G2 all-electric twin-lift separating spreader is designed to support terminals in achieving their environmental goals without sacrificing productivity or efficiency. The Bromma all-electric STS spreader is the fastest all-electric spreader in the market with its accurate positioning when telescoping with its increased telescoping and twin separating speed. It is also quieter without a continuously running hydraulic powerpack.

Made of high-quality, high-strength steel, the STS45E G2 spreader provides high lifting capacity with a low nominal tare weight thanks to the box design of the telescoping beams and the main frame. All components can be easily assembled, adjusted, removed and are accessible for inspection and maintenance. The STS45E G2 is equipped with Bromma's best in class Spreader Control Unit (SCU), the spreader control system that is optimized for reliable and superior spreader performance.

## Technical Data

| | |
|---|---|
| **Lifting capacity** | 51 metric tons evenly loaded<br>51 metric tons ±10% eccentric loading<br>Twin-lift of 2 x 20' containers<br>2 x 32.5 metric tons evenly loaded |
| **Lifting lugs** | 4 x 12.5 metric tons in the main frame and end beams |
| **Weight** | 12.6 metric tons<br>(without extra equipment) |
| **Separating capacity** | 0-1600 mm with full load |
| **Telescopic motion** | 20'–40' approximately 18 sec.<br>20'–45' approximately 21 sec. |
| **Flipper arm speed** | 180° in approx. 5 sec. |
| **Twinlift unit up/down** | Approximately 6 sec. |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Control system** | SCS - Modular |
| **Control voltage** | 24VDC |

# Bromma Hydraulic spreaders

## A Higher Level Of Reliability

Bromma is the world leader in ship-to-shore crane spreaders, with more than 60% of the global market. Bromma has a dominant position for a simple reason: Bromma spreaders show up for work every day and perform at a high level of productivity. When reliability is crucial, as it especially is in ship-to-shore operations, Bromma is the obvious choice. Bromma's family of hydraulic ship-to-shore spreaders includes single-lift spreaders, twin-lift spreaders, and the innovative, high-productivity Bromma Tandem™ product family, capable of twin-40' and twin-45' container handling.


**Reduce Downtime Cost Effectively**
One of the most important technical developments in ship-to-shore spreaders in recent years has been Bromma SCS technology. In service on thousands of spreaders around the globe, Bromma SCS monitors spreader performance, reduces downtime events (through simplified wiring and fewer connections) and shortens downtime duration (through faster fault diagnosis) when faults occur. SCS-Modular is a control system offering a range of different features stretching from basic spreader control to a full-fledged system, including diagnostics, connectivity and an on-board information display. All options are designed to improve spreader operational efficiency and to reduce total cost of ownership of the spreader.

**A Higher Level Of Productivity**
Bromma ship-to-shore spreaders are known for their exceptional productivity. Bromma's top-selling STS45 separating twin-lift spreader has exceptional performance characteristics. Higher productivity boosts the terminal bottom line. Bromma calculates that a more reliable spreader at a busy container terminal that averages just 0.5 more moves per hour can generate an additional $30,000 USD in terminal profit per year.

Bromma's vast global experience is also a major factor in the dependability of Bromma equipment. Bromma knows what terminals need, what can go wrong, and how to deliver equipment that performs in the "real world" scenarios that terminals face every day.

**Weight & Energy**
Spreader weight directly impacts crane energy consumption, an area of growing concern for terminals facing fuel cost increases. Bromma R&D models indicate that a 1.5 metric tons reduction in ship-to-shore spreader weight can produce more than $4,200 USD in annual crane energy savings. Bromma R&D pays serious attention to spreader weight throughout its entire product line.

**Thoughtful Design**
Bromma's engineering team ensures high structural integrity through strategic engineering, such as finite element modelling, which analyzes stress points on the spreader and projects the likely effect of accumulated stress over time. Bromma design studies, including buckling, vibration, and stress-related stiffening analyses, enable Bromma Research and Development to evaluate the long-time impact of design changes, and develop optimum design solutions.

**A Quality Build**
Bromma uses premium high-quality steel for spreader frame structures selected on the basis of its strength, weldability, and form ability. All our spreaders are designed in accordance with EN13001, with components that can be easily assembled, adjusted, removed and are accessible for inspection and maintenance.

**A Spreader That Shows Up For Work Every Day**
Bromma ship-to-shore spreaders are also known for exceptional durability – often remaining in active service for 12 or more years at high-throughput terminals. Bromma hydraulic ship-to-shore spreaders show up for work every day, produce more while they're on the job, and keep performing for a long time.

Hydraulic spreaders

# SSX40/45

## Single-Lift


**Container combinations**
SSX40/SSX45

| 20' | 40' | *45' |
|---|---|---|

(*only SSX45)

- **Experience means low downtime**
- **Designed for higher throughput**
- **High reliability**

Bromma single-lift SSX40/45 spreaders are known throughout the world for exceptional strength, reliability, and long life.

Floating ISO twistlocks allow for 6mm of float in all lateral directions, providing efficient locating in the container corner castings. The contact surfaces between the main frame and the telescoping beams consist of grease-lubricated low-friction plates. These spreaders have the ability to retract to the 19'6" position in the event the spreader becomes jammed in the ship's 20' cell. Positioning to the 19'6" position can be controlled by the operator if appropriate controls are furnished in the crane cab.

Bromma advanced performance technology, such as SCS-Modular, Twin-Twenty Detection System (TTDS) (an excellent safety feature), and the Height Indication System (HIS) are available as options.

## Technical Data

| | |
|---|---|
| **Lifting capacity** | 41 metric tons, ±10% ecc. load<br>41 metric tons, evenly loaded |
| **Lifting lugs** | 4 x 10 metric tons in main frame and end beams |
| **Weight** | SSX40: About 8.7 metric tons (without extra equipment)<br>SSX45: About 9.6 metric tons (without extra equipment) |
| **Telescopic motion** | SSX40: 20'–40' in approx. 28 sec.<br>SSX45: 20'–45' in approx. 30 sec. |
| **Flipper arm speed** | 180° in 3 to 5 sec. |
| **Twistlock rotation** | 90° in approx. 1 sec. |
| **Hydraulics** | System pressure 100 bar |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Max power consumption** | 7.5 kW |
| **Control system** | Relay controlled<br>(SCS - Modular available as an option) |
| **Control voltage** | 24VDC |



Hydraulic spreaders

# STR40/45

## Twin-Lift


**Container combinations**
STR40/STR45

| 20' | 40' | *45' | 2 x 20' |
|---|---|---|---|

(*only STR45)

- **Lift without changing the spreader**
- **Advanced communications system**
- **Fast trouble shooting**

The STR40 and STR45 twin-lift can lift one or two 20' containers, a single 40' container or a 45' container – all without changing the spreader. The telescopic spreader is of a rectangular frame construction enabling easy location on containers and is equipped with 4 x 10 metric tons lifting lugs in the corners of the end beams for heavy lifts and for handling damaged containers.

The spreader can retract to the 19'6" inch position in case it becomes jammed in the ship's 20' cell.

The design with recessed end beams makes handling of lashing frames and hatch covers possible. All motions of the spreader are controlled from the driver's cab and there are provisions made for signals in the cab indicating the position of the twistlocks and landing pin status.

The spreader comes with the SCS-Modular, reducing and preventing downtime and shorten downtime through faster spreader fault diagnostics.

## Technical Data

| | |
|---|---|
| **Lifting capacity** | 51 metric tons, ±10% ecc. load<br>51 metric tons, evenly loaded<br>2 x 32.5 metric tons, evenly loaded |
| **Lifting lugs** | 4 x 10 metric tons in main frame and end beams |
| **Weight** | STR40: About 9.9 metric tons (without extra equipment)<br>STR45: About 11 metric tons (without extra equipment) |
| **Telescopic motion** | STR40: 20'–40' in approx. 28 sec.<br>STR45: 20'–45' in approx. 30 sec. |
| **Flipper arm speed** | 180° in 3 to 5 sec. |
| **Twistlock rotation** | 90° in approx. 1.5 sec. |
| **Hydraulics** | System pressure 100 bar |
| **Twinlift unit up/down** | Approx. 6 sec. |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Max power consumption** | 7.5 kW |
| **Control system** | SCS - Modular |
| **Control voltage** | 24VDC |

Hydraulic spreaders

# STS45

## Twin-Lift


**Container combinations**
STS45

| 20' | 40' | 45' | 2 x 20' |
|---|---|---|---|

- **Twin-lift ship-to-shore hydraulic**
- **The separating STS45 is excellent**

Bromma twin-lift hydraulic spreaders are feature rich with advanced performance technology, such as SCS-Modular which comes as standard. Bromma's optional MPS Memory Positioning System can help increase productivity. Options such as the Bromma Twin-Twenty Detection System adds safety and the HIS Height Indication System is ideal for use on high-speed cranes.

On the STS45 separating twin movement can be done at any time in the crane cycle, which means there is no stopping time to change the container spacing. This results in higher flexibility in container ship loading and unloading.

ISO twistlocks allow for 6mm of float in all lateral directions, providing efficient locating in the container corner castings. These spreaders can retract to the 19'6" position in the event the spreader becomes jammed in the ship's twenty-foot cell. Positioning to the 19'6" position can be controlled by the operator if appropriate controls are provided in the crane cab.

## Technical Data

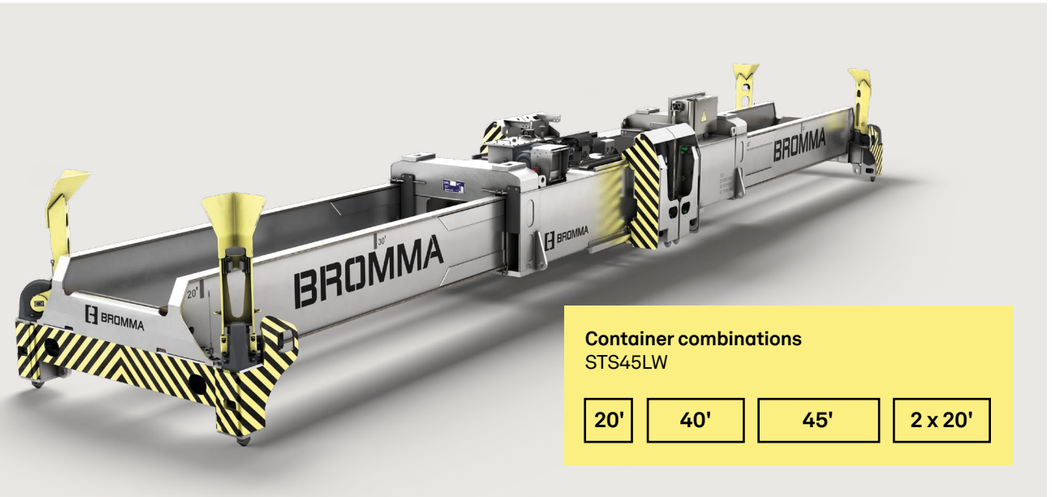
| | | | |
|---|---|---|---|
| **Lifting capacity** | 51 metric tons, ±10% ecc. load<br>51 metric tons, evenly loaded<br>2 x 32.5 metric tons , evenly loaded | **Hydraulics** | System pressure 100/160 bar |
| **Lifting lugs** | 4 x 10 metric tons in main frame and end beams | **Power supply** | 400/230 V AC 50 Hz or otherwise as agreed |
| **Weight** | About 12.7 metric tons (without extra equipment) | **Max power consumption** | 7.5 kW |
| **Separating capacity** | 0-1600mm with full load | **Twinlift unit up/down** | Approx. 8 sec. |
| **Telescopic motion** | 20'–45' in approx. 30 sec. | **Twin expand/retract** | Approx. 20 sec. |
| **Flipper arm speed** | 180° in 3 to 5 sec. | **Control system** | SCS - Modular |
| **Twistlock rotation** | 90° in approx. 1 sec. | **Control voltage** | 24VDC |



Hydraulic spreaders

# STS45LW

## Twin-Lift




**Container combinations**
STS45LW

| 20' | 40' | 45' | 2 x 20' |
|---|---|---|---|

- **Twin-lift ship-to-shore hydraulic**
- **Can move two 20' containers apart from 0 to 1.6 meters (0'-5') under full load**

The Bromma STS45LW is a light-weight twin lift hydraulic spreader, ideal for use on cranes rated to lift less weight. It is a feature rich spreader with Bromma advanced performance technology, such as SCS Modular. Bromma's optional MPS Memory Positioning System and Twin-Twenty Detection System makes the crane operator's task easier, plus increases productivity and safety.

On the STS45LW separating twin movement can be done at any time in the crane cycle, which means there is no stopping time to change the container spacing. This results in higher flexibility in container ship loading and unloading.

ISO twistlocks allow for 6mm of float in all lateral directions, providing efficient locating in the container corner castings. These spreaders can retract to the 19'6" position in the event the spreader becomes jammed in the ship's 20' cell. Positioning to the 19'6" position can be controlled by the operator if appropriate controls are provided in the crane cab.

## Technical Data

| | | | |
|---|---|---|---|
| **Lifting capacity** | 41 metric tons, ±10% ecc. load<br>41 metric tons, evenly loaded<br>2 x 25 metric tons , evenly loaded | **Hydraulics** | System pressure 100/160 bar |
| **Lifting lugs** | 4 x 10 metric tons in main frame and end beams | **Power supply** | 400/230 V AC 50 Hz or otherwise as agreed |
| **Weight** | About 10.7 metric tons (without extra equipment) | **Max power consumption** | 7.5 kW |
| **Separating capacity** | 0-1600mm with full load | **Twinlift unit up/down** | Approx. 8 sec. |
| **Telescopic motion** | 20'–45' in approx. 30 sec. | **Twin expand/retract** | Approx. 20 sec. |
| **Flipper arm speed** | 180° in 3 to 5 sec. | **Control system** | SCS - Modular |
| **Twistlock rotation** | 90° in approx. 1 sec. | **Control voltage** | 24VDC |

# Bromma Tandem™

## A Higher Level Of Productivity

Bromma Tandem™ spreaders are feature-rich. Long side flippers mounted on an inclined base, and rounded end beams, avoid jamming in cell guides. The four wagons can be moved individually to allow skewing and gravity point adjustment, should this be needed.

- **Bromma Tandem™ will increase productivity** when loading and unloading ships stacked with 40' containers. It is also ideal for terminals with a high volume of empty containers, and cranes with limited lift capacity.
- **For terminals moving a significant number** of 40' or 45' containers, Tandem™ can significantly boost the productivity of each lift cycle.

**Tandem™ Productivity**
Bromma Tandem™ spreaders are feature-rich. Long side flippers mounted on an inclined base, and rounded end beams, avoid jamming in cell guides. The four wagons can be moved individually to allow skewing and gravity point adjustment, should this be needed. A memory system allows a pre-set positioning distance between the spreaders. Chain suspension allows Tandem™ to handle containers of different height. Eight powerful flippers with large scoops in optimal configuration allow Tandem™ to handle different combinations efficiently.

The Bromma Tandem™ Headblock with adjustable pulley wheel distance keeps the gravity point of the two containers between the pulley wheels center in Tandem™ mode. When operating with a standard spreader, the pulley wheels will retract to normal headblock width. Pulley wheels move from standard narrow width position to a wide width position. Bromma can also provide a fully automatic electrical plug/socket interface and can assist in modification work for the existing crane electrical interface and communication system to enable the handling of Tandem™ spreaders. The Bromma Tandem™ spreader is a new productivity tool for an industry that's hungry for productivity. At container terminals around the world, there are more and more 40' containers, and fewer 20' containers. The type of spreader used to handle these containers, and the brand of spreader selected, can have a major impact on operating efficiency. Bromma Tandem™ is one tool in the effort to boost productivity, as it offers the opportunity to greatly expand the productivity of each lift cycle.

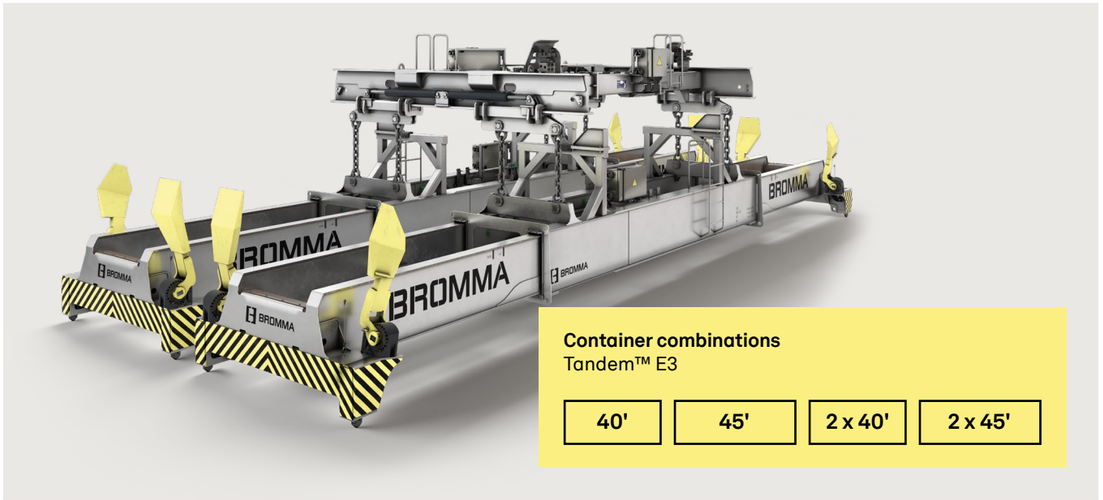
Chances are that whatever your terminal's container mix is today, it will be somewhat different tomorrow, and that whatever your terminal's container volume is today, it will be somewhat greater tomorrow. Bromma Tandem™ is a spreader advance in both areas – providing both a productivity boost and an extremely versatile lifting tool. Bromma Tandem™ will increase productivity when loading and unloading those sections of container ships stacked with 40' containers. It is also ideal for terminals with a high volume of empty containers and cranes with limited lifting capacity. Bromma Tandem™ has the ability to simultaneously lift four 20' containers (Tandem™ Quattro), or two 40' containers, or two 45' containers, or many other combinations, including hatch covers. It can easily handle container height differences of up to 700mm, and has productivity of up to 60, 40' or 45' containers per hour.


**A Proven Design**
Moreover, except for lifting capacity, there is no need for a special crane design. With Bromma's pioneering spreader control system technology SCS-Modular, terminals can swap spreaders between different cranes, and install new spreader models, such as Tandem™, without any concern about the interface with other spreader models.

While Bromma Tandem™ is innovative, it is also important to note that it is based on a simple technical approach that features spreader design and technology with proven reliability. The fixed-length Tandem™ was first put into field tests in 2003. It is also not a complicated design solution. The type of Tandem™ spreader selected depends on the crane lift capacity. Except for sufficient lifting capacity, there is no need for a special crane design. The inherent versatility of the Bromma Tandem™ family makes it an ideal choice for terminals looking to the horizon and operating with a long-term perspective when making spreader fleet planning decisions.

TANDEM™

# E3




**Container combinations**
Tandem™ E3

| | | | |
|---|---|---|---|
| 40' | 45' | 2 x 40' | 2 x 45' |

The Bromma Tandem™ E3 spreader offers great capacity and flexibility. Low spreader weight is combined with the ability to lift different combinations of 40' or 45' containers side by side as shown below. The spreader can also lift single 40' and 45' containers.

The Tandem™ E3 spreader also offers another advantage: the capability to do side shift on individual spreaders, which is useful when the chassis or containers on the ground are not fully lined up in the longitudinal direction. The limitation on the E3 is that it cannot lift 20' containers. Due to this limitation, the Tandem™ E3 is especially well-suited for container terminals that have a high percentage of 40' and 45' containers, and a low percentage of 20' containers.

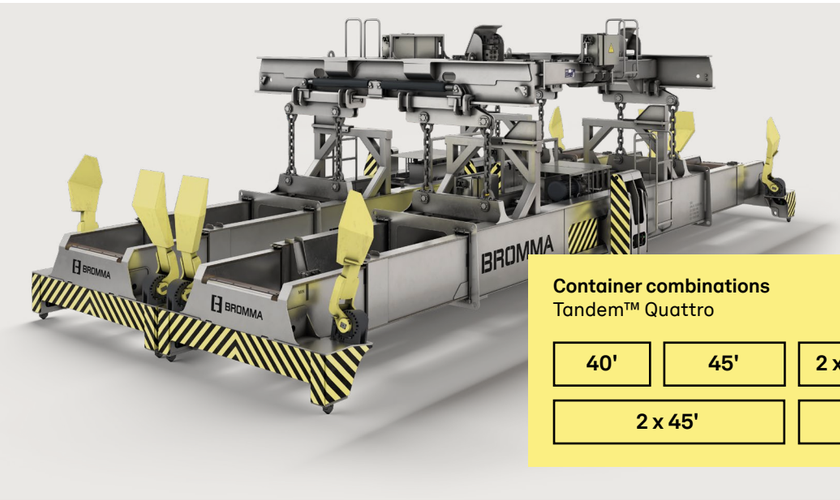
## Technical Data

| | |
|---|---|
| **Lifting capacity** | 2 x 41 metric tons |
| **Weight** | About 21 metric tons (without extra equipment) |
| **Telescopic motion** | 40'-45' in approx. 18-20 sec |
| **Flipper arm speed** | 180° in 3 to 5 sec. |
| **Twistlock rotation** | 90° in approx. 1 sec. |
| **Hydraulics** | System pressure 140 bar |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Max power consumption** | 15 kW |
| **Skewing** | ±20 degrees |
| **Skewing speed** | 1 degree in 2 sec. |
| **Tandem separating speed** | 1000 mm in 10 sec. |
| **Control system** | SCS - Modular |
| **Control voltage** | 24VDC |
| **Container height difference** | (Loading/ Unloading) 2'/660 mm |



TANDEM™

# QUATTRO




**Container combinations**
Tandem™ Quattro

| | | | |
|---|---|---|---|
| 40' | 45' | 2 x 20' | 2 x 40' |
| 2 x 45' | | 4 x 20' | |

The Tandem™ Quattro is a high-productivity, lower weight Tandem™ solution. The limitation on Tandem™ Quattro is that it is not designed to lift a single 20' container. The Tandem™ Quattro is especially well-suited for container terminals that have a high percentage of 40' and 45' containers, and a low percentage of 20' containers that are located in such a way that they need to be loaded/ unloaded in single lift mode.

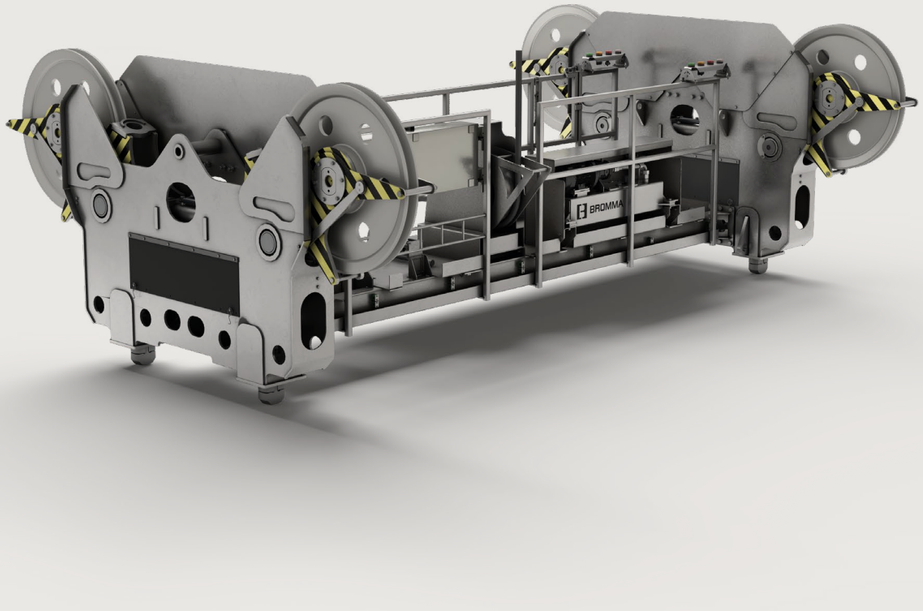
The Tandem™ Quattro offers the ability to handle four 20' containers at a time – two 20' containers under each spreader.

## Technical Data

| | |
|---|---|
| **Lifting capacity** | 2 x 51 metric tons<br>4 x 32.5 metric tons |
| **Weight** | About 24 metric tons (without extra equipment) |
| **Telescopic motion** | 40'-45' in approx. 18-20 sec |
| **Flipper arm speed** | 180° in 3 to 5 sec. |
| **Twistlock rotation** | 90° in approx. 1 sec. |
| **Hydraulics** | System pressure 140 bar |
| **Power supply** | 400/230 VAC 50 Hz or otherwise as agreed |
| **Max power consumption** | 15 kW |
| **Skewing** | ±20 degrees |
| **Skewing speed** | 1 degree in 2 sec. |
| **Tandem separating speed** | 1000 mm in 10 sec. |
| **Control system** | SCS - Modular |
| **Control voltage** | 24VDC |
| **Container height difference** | (Loading/ Unloading) 2'/660 mm |

TANDEM™

# HEADBLOCK



## Technical Data

| | | | |
|---|---|---|---|
| **Lifting capacity under Headblock** | 165 metric tons (for Tandem 45) | **Max power consumption** | 3 kW at 50-60 Hz |
| **Headblock tare weight** | About 6.8 metric tons (for Tandem 45) (without extra equipment) | **Control voltage** | 24VDC |
| **Hydraulics** | System pressure 140 bar | **Pulley wheel distance** | Approx. 5 min. (manual) Approx. 1 min. (fully automatic) |
| **Connection to** | Twistlock | | |
| **Twistlock rotation** | 90° in approx. 1.5 sec. | | |


# Supporting you at every step

Bromma can support every need over the lifetime of the spreader, from evaluation to refurbishment, upgrading and replacement. Through quality, expertise, presence and dedication, we eliminate costly downtime and secure smooth, highly productive operations.

# Bromma services

**Fleet Evaluation**
A Fleet Evaluation performed by Bromma's expert field service engineers gives you a clear picture of the condition of your spreader fleet and a list of recommended actions, enabling you to identify issues before they become problems and saving significant hassle and expense down the line. You will always know what needs to be done, and you can plan for maintenance, replacement or refurbishment at the right time.The evaluation includes a thorough review of the steel structure and mechanical, hydraulic and electrical systems.

**Refurbishment**
Refurbishment can add several years to the lifetime of a spreader and may be a sound economic decision in some cases. However, it is important to bear in mind that the viability of refurbishment is affected by many different factors. And while components and systems can be returned to factory specifications, it is not possible to undo wear and fatigue of the steel structure, which is the main limitation in most refurbishment scenarios. Where refurbishment is indicated, the work should always be carried out by an expert partner. Bromma has unmatched spreader knowledge and experience. We have the capabilities to bring your spreader back up to the highest possible level of performance.

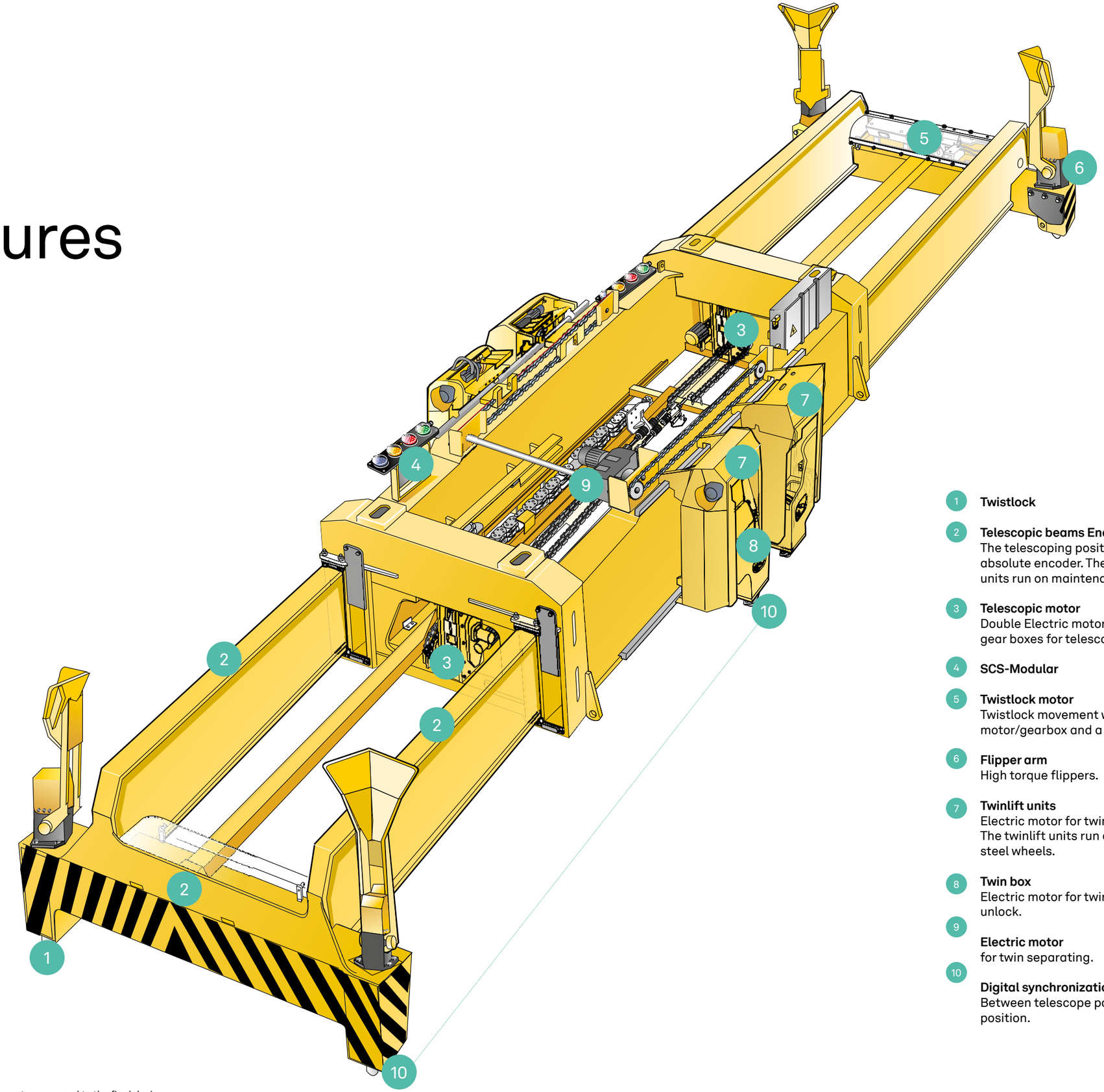
**Upgrades**
Bromma is committed to continuous innovation, and we want all our customers to benefit. That's why we offer performance upgrades for older spreaders, adding new functionality that can lift performance and productivity. The benefits are clear – even small increases in handling efficiency and uptime can result in significant financial gains.

**Bromma Genuine Spare Parts**
Bromma genuine spare parts keep your spreader at the same uncompromising level of performance. They are made to withstand constant punishment in the harshest conditions, from corrosive environments to extremes of temperature and humidity. On top of that, Bromma offers a rapid delivery service for our premium-quality genuine parts to anywhere in the world, as we keep large stocks of Bromma genuine spare parts in key locations worldwide, ensuring your operations will continue without interruption. We make it easy to get your Bromma genuine spare parts through our BrommaParts webshop, which is quick and simple to navigate with the catalogue is always at your fingertips.

**Bromma Spreader Monitoring System**
Bromma Spreader Monitoring System is a cloud-based real-time monitoring tool, which provides an instant view of the health of every spreader in fleet. With over 800 recommended solutions, Bromma SMS enables fact-based decision making around the use of your spreaders. It detects, understands, prevents, and resolves potential issues before they become real problems, allowing you to prioritize maintenance needs and improve productivity at your terminal.

# Key features

- Due to bromma's long experience in container handling bromma engineers have developed a number of smart and reliable solutions for the ship to shore spreaders.
- These spreaders are designed to withstand hard treatment with less servicing need, and have contributed greatly to the success of Bromma and our leading market position.




1 **Twistlock**

2 **Telescopic beams End beam**
The telescoping positions are controlled by an absolute encoder. The two telescopic beam units run on maintenance-free roller bearings.

3 **Telescopic motor**
Double Electric motors with gear boxes for telescoping.

4 **SCS-Modular**

5 **Twistlock motor**
Twistlock movement with electric motor/gearbox and a linkage system.

6 **Flipper arm**
High torque flippers.

7 **Twinlift units**
Electric motor for twinlift boxes up/down. The twinlift units run on both glide plates and steel wheels.

8 **Twin box**
Electric motor for twinlift twistlock lock / unlock.

9 **Electric motor**
for twin separating.

10 **Digital synchronization**
Between telescope position and twinlift units position.

The picture shown is for illustration purpose and may not correspond to the final design.

# Ship-to-shore spreaders

| | | PAGE | CONTAINER HANDLING CAPABILITY | | | | | | | APPROXIMATE WEIGHT | MAX POWER | SWL (in metric tons) | | | SPEED (sec.) | | OPERATING DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 20’ | 40’ | 45’ | 2x20’ | 2x40’ | 2x45’ | 4x20’ | (Tons) | (kW) | Even. | Eccen. | Twin | Twistlocks 90° | Telescopic | |
| E-SERIES | STS45E G2 | 8 | ● | ● | ● | ● | | | | 12.6 metric tons | 1 | 51 | 51 | 2x32.5 | ~1 | ~30 | Twinlift unit up/down approx. 6 sec.<br>Twin separating speed approx. 18 sec. |
| | STR40E | 6 | ● | ● | | ● | | | | 9.8 metric tons | 7.5 | 51 | 51 | 2x32.5 | ~1 | ~28 | Twinlift unit up/down approx. 6 sec. |
| | STR45E | 6 | ● | ● | ● | ● | | | | 11.3 metric tons | 7.5 | 51 | 51 | 2x32.5 | ~1 | ~28 | Twinlift unit up/down approx. 6 sec. |
| | SSX40E | 7 | ● | ● | | | | | | 8.6 metric tons | 7.5 | 41 | 41 | - | ~1 | ~30 | |
| | SSX45E | 8 | ● | ● | ● | | | | | 9.6 metric tons | 7.5 | 41 | 41 | - | ~1 | ~287 | |
| HYDRAULIC | SSX40 | 12 | ● | ● | | | | | | 8.7 metric tons | 7.5 | 41 | 41 | - | ~1 | ~30 | |
| | SSX45 | 12 | ● | ● | ● | | | | | 9.6 metric tons | 7.5 | 41 | 41 | - | ~1 | ~30 | |
| | STR40 | 13 | ● | ● | | ● | | | | 9.9 metric tons | 7.5 | 51 | 51 | 2x32.5 | ~1.5 | ~28 | Twinlift unit up/down approx. 8 sec. |
| | STR45 | 13 | ● | ● | ● | ● | | | | 11 metric tons | 7.5 | 51 | 51 | 2x32.5 | ~1.5 | ~30 | Twinlift unit up/down approx. 8 sec. |
| | STS45 | 14 | ● | ● | ● | ● | | | | 12.7 metric tons | 7.5 | 51 | 51 | 2x32.5 | ~1.5 | ~30 | Twinlift unit up/down approx. 8 sec.<br>Twin separating speed approx. 20 sec. |
| | STS45LW | 15 | ● | ● | ● | ● | | | | 10.7 metric tons | 7.5 | 41 | 41 | 2x25 | ~1.5 | ~30 | Twinlift unit up/down approx. 8 sec.<br>Twin separating speed approx. 20 sec. |
| TANDEM | TANDEM™ E3 | 19 | | ● | ● | | ● | ● | | 21 metric tons | 15 | 2x41 | 2x41 | - | ~1 | - | Container Height Difference<br>(Loading/unloading): 660 mm (standard);<br>Skewing: ±20°; Separating speed: 1000 mm in 10 sec. |
| | TANDEM™ QUATTRO | 21 | | ● | ● | ● | ● | ● | ● | 24 metric tons | 15 | 2x35 | 2x35 | 4x32.5 | ~1 | - | Container Height Difference<br>(Loading/unloading): 660 mm (standard);<br>Skewing: ±20°; Separating speed: 1000 mm in 10 sec. |
| | HEADBLOCK | 22 | | | | | | | | 6.8 metric tons | - | 165 | 165 | - | ~1.5 | - | Pulley wheel distance adjustment:<br>About 5 min. (manual), About 1 min.<br>(fully automatic) |

BROMMA

**bromma.com**

We reserve the right to change the design and technical data without prior notice.


sales@bromma.com
Revision 1 / 3 November 2025