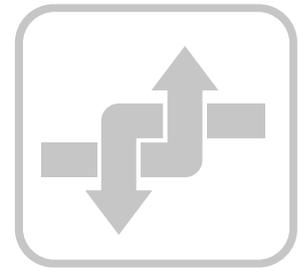


# BOXer



## The BOXer – The technologically superior system

The BOXer small parts unit is part of a series of aisle stacker cranes for automated container, tray or box warehouses. Thanks to innovatively and consistently applied lightweight construction, new standards are being set with regard to energy consumption. With a comparable level of system performance, the BOXers are the most lightweight and thus most energy-saving small parts aisle stacker cranes on the market. Stöcklin also offers the BOXer series as a complete turnkey system comprised of stacker cranes, racking, loading equipment (containers, trays), controls and warehouse management.

### **Highest availability with low maintenance costs**

Thanks to the ergonomic and very maintenance-friendly design, the individual components of the mechanics and the control technology can be changed very quickly. Short downtimes ensure a high level of availability as well as low maintenance costs.

### **High throughput and vibration reduction**

Regulated drives for the chassis and lifting mechanism ensure optimum adjustment of acceleration, propulsion and braking curves. In sufficiently long aisles, traveling speeds of up to 6 m/s are possible.

The proven lightweight aluminum mast construction combined with the smooth propulsion curve permits dynamic, low-vibration operation. Corrective movements for subsequent positioning are generally not required.

### **Increased reliability**

The standard rack gap monitoring function monitors the space between the stacker crane and the rack. If a container or package is identified within the area of movement, the device stops instantly, thus avoiding a collision.

## QUALITIES

### **Flexible**

*The BOXer is suitable for a wide variety of load carriers (boxes, trays, containers)*

### **Modular**

*The system is built with the suitable functions and framework*

### **Versatile**

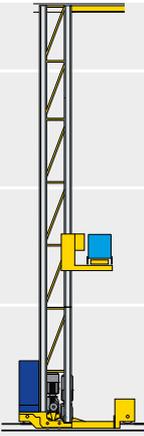
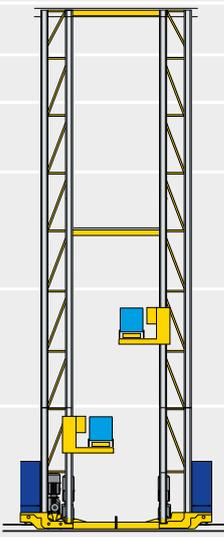
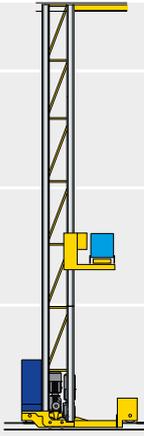
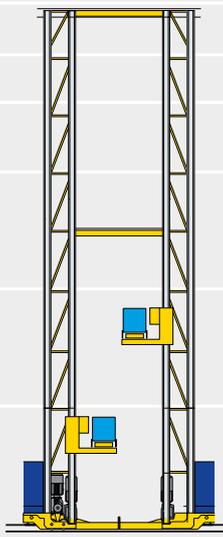
*A number of standard load handling attachments (single-, double- and quadruple-depth) are available*

### **Efficient**

*Automatic load handling with two load handlers offers an increase in performance of up to 30%*

### **Vibration-free**

*Also available with anti-pendulum drive for taller devices*

Single deep		Double deep	
1 mast 1 load handling device	2 mast 2 load handling devices	1 mast 1 load handling device	2 mast 2 load handling devices
Height max. 18 m	Height max. 22 m	Height max. 18 m	Height max. 22 m
			

### The BOXer in figures

Stöcklin offers the modular BOXer series in three basic versions. One of our greatest strengths, however, is flexibility, which means we are able to adapt the BOXer to your needs and circumstances. With our help, you'll find the optimum solution.

The performance of the plant or system is always one of the core points, but high speeds and accelerations also always mean greater wear and tear on components and greater energy requirements, so they are only worthwhile if you also really need them. We configure your system so that you have sufficient reserves to turn over your merchandise, but we also help you to avoid unnecessarily high operating costs.

The modular structure of the mast is one of the most lightweight in its class and is therefore a clear indication of the "Think Green" orientation. The energetic interplay of the drive regulators of the forward and lift drives makes it possible for the braking energy to be swapped between the drives. This is due to the electrical connection between the intermediate circuits of the frequency converter. Furthermore, the movements of the axes are aligned in such a way that the energy exchange between the drives can be utilized to maximum effect. The energy of the descending lifting mechanism is made available to the forward drive, and the braking energy of the forward drive is used to lift the load handling attachment – the lifting mechanism is started at an optimum point in time. Furthermore, the energy balance of the devices can be improved through the use of energy recovery modules.

### Anti-pendulum system

Another new feature is the anti-pendulum system, with which a high throughput level can be achieved even with very tall small parts units (15 to 22 m). The attachment of an additional anti-pendulum drive to the masthead, which eliminates the vibration of the mast to the greatest extent possible and supports the movement of the unit in the horizontal direction of travel, guarantees there will be no vibration. If required, vibration can also be prevented with the use of special software modules.

### Rail and conductor line

In order to be able to guarantee quiet and smooth running, the BOXer travels on polyamide wheels along a solid steel rail. This is mounted like a railway sleeper on threaded braces set into the base. Dual-level applications are fixed in such a way as to minimize vibration and noise.

There are end plates at both ends of the aisles, on which the hydraulic emergency end buffer and the belt tension stations are mounted. The power supply required for components that also travel is provided via a guide rail attached directly to the shelf uprights. This offers a variety of attachment options for both single-position and shelved racking.

	Single-mast	Double-mast	
Single-depth storage	BOXer E1	BOXer E2	BOXer E2V
Number of load handling devices	1 single-depth	2 single-depth	2 single-depth
Payload max.	1 x 100 kg	2 x 50 kg	2 x 50 kg
Device height max.	15 m / 18 m*	15 m / 18 m*	22 m*
Aisle width clearance	800 mm	800 mm	800 mm
Traveling speed max.	6 m/s	6 m/s	5 m/s
Traveling acceleration max.**	4.0 m/s <sup>2</sup>	3.0 m/s <sup>2</sup>	2.5 m/s <sup>2</sup>
Lifting speed max.	3.0 m/s	3.0 m/s	3.0 m/s
Lifting acceleration max.	3.0 m/s <sup>2</sup>	3.0 m/s <sup>2</sup>	3.0 m/s <sup>2</sup>

	Single-mast	Double-mast	
Double-depth storage	BOXer D1	BOXer D2	BOXer D2V
Number of load handling devices	1 double-depth	2 double-depth	2 double-depth
Payload max.	2 x 100 kg	4 x 50 kg	4 x 50 kg
Device height max.	15 m / 18 m*	15 m / 18 m*	22 m*
Aisle width clearance	1450 mm	1450 mm	1450 mm
Traveling speed max.	6 m/s	6 m/s	5 m/s
Traveling acceleration max.**	4.0 m/s <sup>2</sup>	3.0 m/s <sup>2</sup>	2.5 m/s <sup>2</sup>
Lifting speed max.	3.0 m/s	3.0 m/s	3.0 m/s
Lifting acceleration max.	3.0 m/s <sup>2</sup>	3.0 m/s <sup>2</sup>	3.0 m/s <sup>2</sup>

\* with anti-pendulum system

\*\* dependent on the height

## The components of the BOXer

1. Mast head with upper roll guides
2. Aluminum mast with integrated ascension ladder, Y conductor line and podium (platform)
3. Double drive belt
4. Control cabinet X2
5. Load handling attachment (LAM)
6. Control cabinet X1
7. Propulsion (omega drive)
8. Lift drive
9. Chassis
10. Guide rail
11. Mainland-side control cabinet X0
12. End plate with shock absorber
13. Double drive belt
14. Rack gap monitoring function



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