



FORKLIFT TRUCKS FOR PAPER HANDLING  
**INTELLIGENCE BUILT ON KNOWLEDGE**





*Spirit Delta has undergone further development to provide extra width for more space for installing additional equipment.*



*The space inside the new Spirit Delta Space can only be described as huge. Here, the driver sits like a king, able to survey the load and handling, with plenty of space for extra equipment and with unimpeded visibility in all directions.*

*The rotating operator's seat in the Spirit Delta Space provides optimum ergonomics and improved handling safety. The steering wheel, instruments and controls all rotate with the seat.*



## **Simpler and safer handling in a harmonic operator environment**

### **Spirit Delta**

Kalmar has long been a leader in efficient operator environments. Spirit Delta is based on extensive research and offers superior ergonomics with intuitive control over all the truck's functions. Everything is logically positioned and within easy reach, and the operator has perfect visibility at all angles.

### **Spirit Delta Space**

New Spirit Delta Space is yet another step in the development of an efficient operator environment. Working together with our customers has produced a cab that focuses on space, safety and comfort. The internal design of the cab is based on an infinitely adjustable unit where all the equipment is located so that the operator can reach it regardless of position. The ample space and the extensive range of extra equipment make it easy to customise the operator environment to fully suit the task at hand.

# When requirements shape new solutions

How can we reduce your costs? This was one of the questions in a survey we carried out among our customers in the paper industry. It resulted in the production of a truck based entirely to meet the requirements of our customers. Built-in intelligence provides quicker handling with substantially reduced risk of expensive damage to the paper reels. Available in electric, diesel or LPG power means that it suits all environments.

We have developed turnkey solutions based on the requirements of our customers where Kalmar is responsible for everything – machinery, financing, maintenance and personnel. The question is now:

How much can we reduce your costs by?

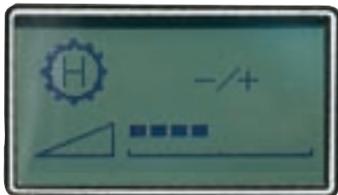


### Control with precision\*

Lifting, tilting, rotating and clamping; handling paper reels calls for a number of operations all requiring high precision. The operator controls these functions individually in the Kalmar paper truck while the engine provides the exact power needed, regardless of engine throttle or if the operator executes several tasks simultaneously.

### Stepless speed control\*

Hydrostatic operation provides stepless speed control forwards and reverse. Both inching and manoeuvring can be executed safely and with precision. The engine brake can be set at nine different levels from nominal to extremely powerful effect.



### Four alternative clamp pressures

A switch in the cab allows the operator to simply select the correct clamp pressure depending on the size of the reel. A refill system ensures that pressure is maintained preventing the reel from sliding during transport.

### Always vertical

Simply pressing the button on the tilt lever of joystick ensures the reel is held in a vertical position. This reduces the risk of damage to edges when lowered onto the ground, lorry deck or onto another reel. The automated system also takes the deflection of the stand into consideration when lifting heavy loads high.



### Automatic clamp pressure\*\*

Setting the clamp pressure exactly is important to avoid damage to the paper reel. The unit senses the slightest movement to the paper reel and immediately adjusts the pressure automatically ensuring the reel is held in place in the optimum way, which eliminates crushing and sliding damage.

\* Does not apply to gearbox transmission

\*\* Requires selection of intelligent unit

### Clamp and lift and lower and open

This is a function where the operator is given the option of executing clamping and lifting of the paper reel at the same time. Likewise, the unit opens automatically as soon as the reel is firmly fixed on the surface. This eliminates sliding and edge damage.

Handling becomes quicker when the operator executes two tasks in one operation.



### **Correct height automatically**

The preset lift height stops the unit automatically at the correct height. Extremely useful for high lifts where visibility may be impeded.



### **Automatic stop 300 mm above ground**

The lowering movement stops automatically 300 mm above ground providing the operator with the option of executing handling cycles considerably more efficiently as he can focus on his next task while the lowering movement is in progress. e.g. turn the operator seat and start transporting the paper reel in the opposite direction.

### **Secure grip**

The automated system prevents the clamping unit from opening during off-ground handling. An important safety function that means that the operator cannot drop the reel for example, accidentally operating the lever.

### **Always lifts the reel**

The function means that the system ensures that the reel is always raised before transport can start. This eliminates edge damage and makes handling more efficient.

### **Minimal emission**

Low emission engine and extremely efficient particle filter with catalyst gives minimal exhaust emissions. The filter normally lasts for a work shift and is easy to replace and can be safely disposed of by combustion.

### **Efficient monitoring and diagnostics**

All functions are integrated into the truck's control system. The



operator can easily

see the status of all the truck's applications in the monitoring system. Fault location during service is quick and simple due to effective diagnostics.

### **No chain slackness**

The lowering movement stops automatically when the reel is unloaded. The lifting chains remain tensioned and the unit causes no sliding damage to the sides of the reel.



### **Battery power as option**

Kalmar's truck for paper handling is also available with batteries as option. Powerful and quickly replaced batteries provide efficient drive, zero exhaust emissions and low sound level.

**Contact information:**

**Make things easy.** Three little words to symbolise the Kalmar philosophy.

Making heavy objects easy to handle is nothing new for Kalmar. The company has over 100 years of experience in lifting and moving heavy objects with our machines in over 140 countries worldwide.

But the three little words "make things easy" also encompass another dimension. Kalmar is more than just a supplier handling equipment. Kalmar offers solutions that make life easier for its customers, everything from operator assistance to contract maintenance and turnkey solutions for fleet management.

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*Make things easy*