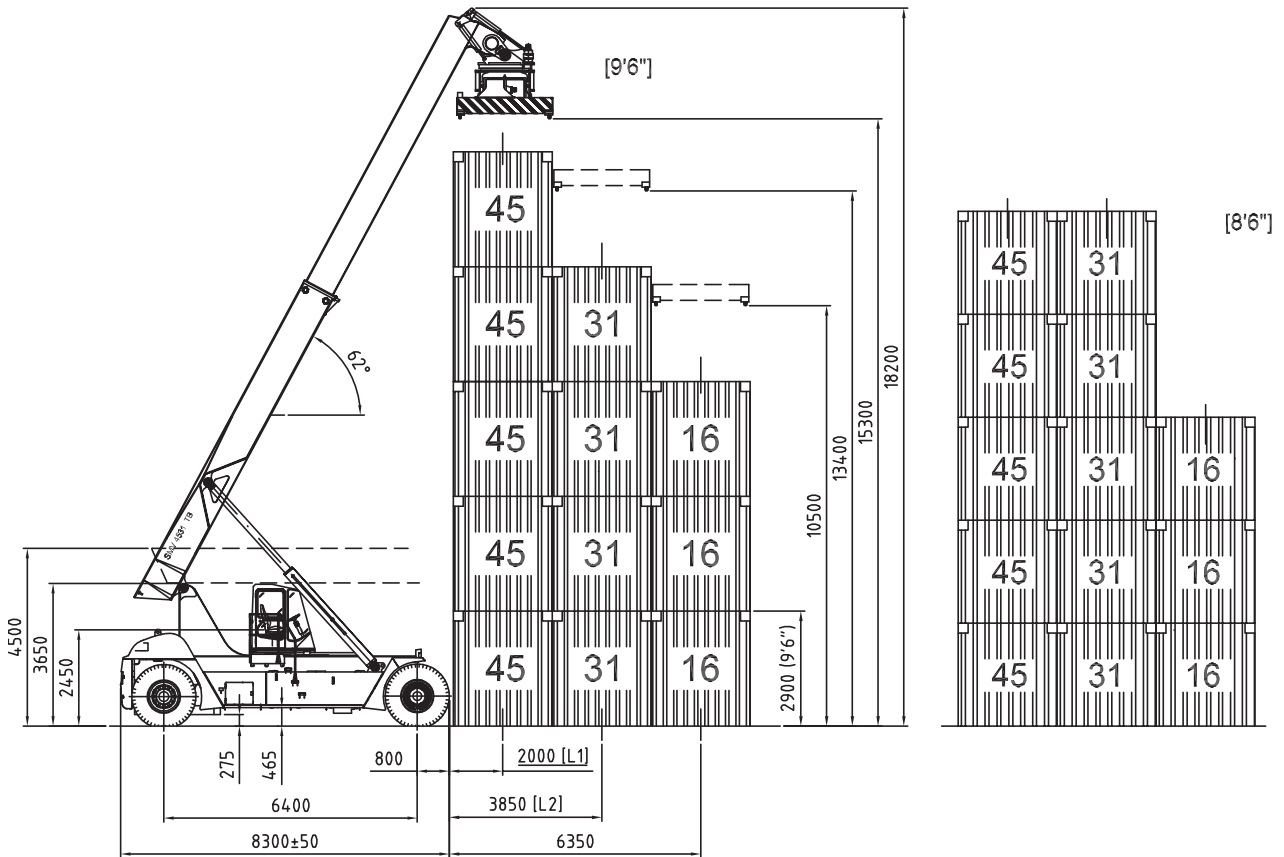


TECHNICAL DATA

Lifting data Lift capacity at loadcenter L1 / maximum height Lift capacity at loadcenter L2 / maximum height Lift speed, unloaded / 40 % load / at rated load Lowering speed, unloaded / at rated load	kg kg m/s m/s	45000 / 45000 31000 / 31000 0,38 / 0,35 / 0,23 0,35 / 0,40
Speeds Speed forward, unloaded / at rated load Speed reverse, unloaded / at rated load Incline, driving ability / at rated load at 0 km h / 2 km h Towing ability at rated load at 0 km h / 2 km h	km/h km/h % kN	24,5 / 22 24,5 / 22 25 / 20 300 / 246
Weight Service weight Axle pressure front at loadcenter L1, unloaded / at rated load Axle pressure front at loadcenter L2, unloaded / at rated load Axle pressure rear at loadcenter L1, unloaded / at rated load Axle pressure rear at loadcenter L2, unloaded / at rated load Axle load in driving position, front / rear	kg kg kg kg kg kg	71800 37500 / 102200 42000 / 95500 34300 / 14600 29800 / 7300 93100 / 23700
Engine (electronically controlled) Make, type designation (*EU Stage II certified) Fuel / type of engine Power ISO 3046 / at speed Torque ISO 3046 / at speed Displacement / no. of cylinders Alternator, type / power Starting battery, voltage / capacity Fuel consumption, normal driving	kW(hp) / rpm Nm / rpm W / Amp V / Ah L / h	*Scania DI-12-54A Diesel/ 4 -stroke 243 (330) / 2100 1589 / 1400 12,0 / 6 AC / 1820 / 65 2 x 12 / 140 15 - 18
*EU stage III requires Scania DC 12 58 A (257kW,350 hp@2100 rpm - 1544/1200 Nm/rpm)		
Transmission with electronic controlled gear shift Gearbox, make / type designation Clutch, type Gearbox, type No. of gears, forward / reverse Drive axle, type		Dana / TE-27000 Torque converter Powershift 4 / 4 Kessler D102
Wheels No. of wheels, front / rear Wheel dimensions, front / rear / ply Pressure, front and rear	In / No Mpa	4 / 2 18.00 x 25" / PR 40 1,0
Steering and brake system Steering system Driving brake system, type / affected wheels Parking brake system, type / affected wheels		Servo assisted Wet disc brakes / Drive axle Spring brake / Drive axle
Volumes Fuel, net Hydraulic system	L L	650 850
Overload protection Hydraulic oil pressure monitoring, machinery / attachment Noise level DIN 45635 (LM inside cab)	Mpa dB (A)	Electronic system 24 / 15 68

SMV 4531 TB5



SMV 4531 TB5 / ENG / 070327

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Konecranes Liftrucks reserves the right to alter design and material specification without prior notice.

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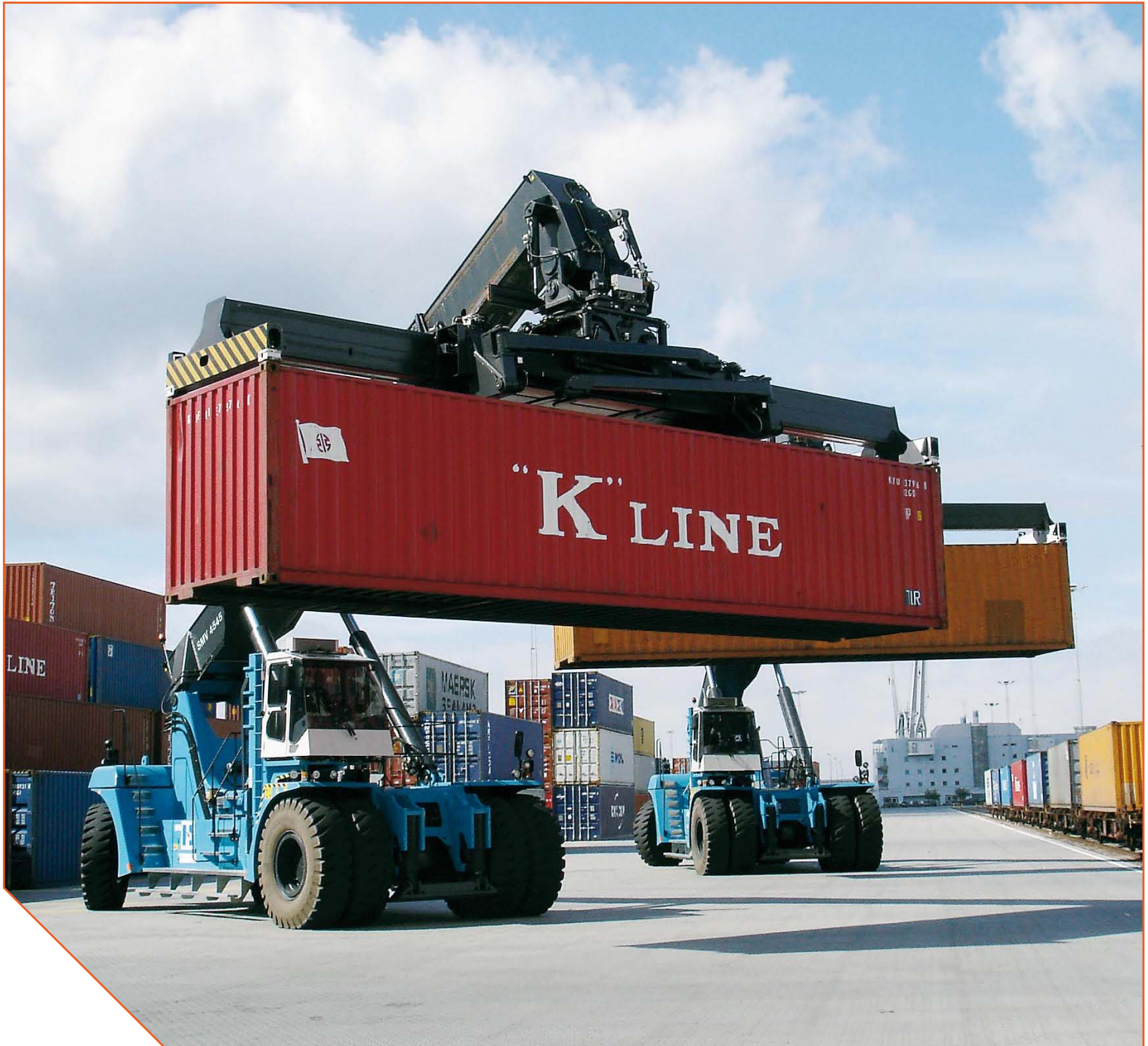
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**REACH STACKERS
10-45 TONS**

KONECRANES®



**HEAVYWEIGHT CHAMPION
OF THE PORT
– A MORE EFFICIENT WAY
TO HANDLE CONTAINERS**

SMV REACH STACKERS

COST-EFFECTIVE GRIP OF EVERY CO

Our latest generation of SMV Reach Stackers is based on over 50 years of experience of designing and customizing trucks for the most demanding applications. This knowledge combined with modern, proven technology underlies the market's most extensive series of powerful and reliable Reach Stackers.



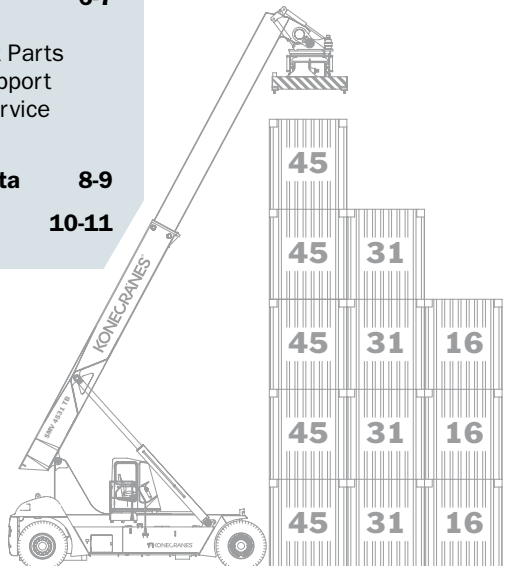
Handy, compact, and easily maneuvered. With smaller Reach Stackers you can handle empty containers exactly as needed in limited spaces. Lift up to 6 containers high, with high performance.



A hard worker that's ideal for terminals where the pace is high. Our big trucks are well-equipped flexible machines. Lift 41 - 45 tons, up to 5 or 6 containers high.

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Our long-term, close collaboration with customers provides us with deep and unique knowledge of container handling and the different needs found in the world's ports and rail terminals. That's why we can offer the broadest range of Reach Stackers – adapted to your needs. No matter which model you choose from our new Reach Stacker series, it features an array of innovative solutions such as the box-type chassis, load-sensing hydraulics (power-on-demand), electronic controlled low-emission engines, electronic overload protection, and a newly designed cabin with improved ergonomics. Combined with fuel efficient engines that deliver high torque at low revs, you can be sure that the trucks will do the heavy work for many years to come.

Wide range of heavy lifting products

We offer a complete line of powerful Reach Stackers for handling empty and laden containers, for trailers on railroads with multiple tracks, and for loading barges at waterways. We also have Reach Stackers for industrial handling of steel slabs, steel coils, pipes, heavy machinery, concrete, stone, and similar goods.

CONTAINER

Few locations place such heavy demands on intensive container handling as ports, rail terminals, or by major waterways. That's why we offer trucks with the best performance and productivity at a low life cycle cost. This cost-effective solution is for customers who want efficient trucks that will do the heavy work for years to come.



A large Rail Stacker provides extra lifting capacity to load on track 1 or track 2. Trucks with long wheelbase lifts with higher capacity and have longer reach.



Loading and unloading barges also require a higher lifting capacity and a larger reach. Our biggest Reach Stackers are in their element in this environment; strength and functionality provide the most efficient machines on the market.

Fully equipped Reach Stackers for container terminals

With the intensive pace in ports, SMV Reach Stackers are best suited for loading, unloading, and stacking empty and laden containers. With our modular system we can always offer the ideal truck model for your needs that meets the requirements in your terminal. Our trucks are usually delivered more fully equipped than trucks from other manufacturers.

Large Reach Stackers for rail terminals

Railway handling usually requires larger trucks with higher lifting capacity and a longer reach. To load and unload on more than one track you need a flexible truck with more functions and larger lifting capacity. These trucks usually have "combi-attachments", which lift both containers (top lift) and trailers (bottom lift). Other common options are hydraulically movable cabin or adjustable height cabin, remote control, and support jacks for increased capacity. This setting also requires trucks with a longer wheelbase.

Heavyweights to load and unload barges

The waterways of the world are becoming increasingly popular for transporting containers. This trend places new demands on flexible loading and unloading of ships and barges that travel the rivers and traverse the seas. Since Reach Stackers also load goods other than containers, they need high capacity, a large reach, and flexibility. Barges are loaded below the level of the dock, which places new demands. Usually a truck adapted for negative lifting is used, but a spacer frame can be used that is also suitable for easier handling.

Konecranes Lifttrucks produces the biggest Reach Stackers in the world.



Using a tool carrier our Reach Stackers can conveniently be adapted for the goods you want to lift – steel, pipe, concrete, or machinery.

Handling steel, concrete and other heavy goods

Our Reach Stackers are delivered equipped with a tool carrier that makes it possible to use different types of equipment. You can easily adapt the truck to handle different types of industrial goods and/or containers. A Reach Stacker can rotate, turn, sideshift, and lift above different levels – movements which are impossible with a fork lift truck. This capability is one of the major advantages of a Reach Stacker.

Maximum strength in perfect balance

Our trucks are built on unique, heavy-duty box chassis in combination with well selected components and engines that deliver high torque at low revs. To take maximum advantage of the power the trucks have well-tested load-sensing hydraulics that provide increased efficiency and better performance.

Power-on-demand reduces wear, fuel consumption, and environmental impact

The Reach Stackers are equipped with load-sensing hydraulics to adapt the lifting power to the weight of the goods and the truck only provides maximum power on demand, when it's really needed. In other words, the truck consumes less power and fuel while reducing emissions and noise. This technology offers many advantages: more easier lifts, smoother drive, and decreased wear on the engine, gearbox, and hydraulics.

Customization increases productivity

We know that every customer has special requirements for the truck's functionality and equipment. Our modular trucks are built based on your needs and requirements, which means the trucks can be tailored to your operation. You will appreciate the truck's high performance, excellent handling, and outstanding service.

Fast moves, with high efficiency. The load-sensing hydraulic system adapts the lifting power to the weight of the goods. Less power is needed for lifting at the same time that more power is available to move the truck, resulting in lower fuel consumption and less wear.

We focus on the driver

Drivers must have a good workplace in order to work safely and effectively for long shifts. To meet this need, the cabins of our trucks are probably the best on the market, with unbeatable comfort, visibility, and ergonomics. The cabin features low noise levels and minimum vibration. The driver is not disturbed by vibrations from the engine or chassis. Large glass screens provide optimum visibility and the powerful ventilation system creates a pleasant climate. All instruments and adjustable controls are located at a comfortable distance from the driver. All Reach Stackers are equipped with joysticks and electronic overload protection, which makes the driver more efficient and the work safer. Wouldn't you like to take a test drive?

This is where SMV Reach Stackers are in their element

- Ports and container terminals
- Rail terminals
- Loading/unloading of barges
- Transport and logistics companies
- Industrial handling





LIFE CYCLE COST – AN IMPORTANT FACTOR TO COUNT ON

Buying a truck is a long-term investment where the purchase price is only one part of the cost in the long run. Costs for service, maintenance, repairs, fuel and any downtime are a large part of the total cost during the truck's lifetime. The efficiency of the truck is another important factor. How many lifts can it handle per shift?

That's why it is important to choose a truck built to work continuously under demanding conditions, day in and day out. It's also why you should look closely at how service-friendly the truck is and how often it needs to be serviced. Other important factors are fuel consumption and emissions. With rising fuel costs, fuel efficient engines and load-sensing hydraulics can save you a significant amount of money.

A more cost-effective truck choice

Our trucks are equipped with load-sensing hydraulics that adapt the power of the engine to the weight of the goods. Compared with simple hydraulic systems that always require higher power, resulting in increased fuel consumption and more wear, this is an effective way to substantially reduce fuel consumption and emissions. If you choose a fork lift truck from us you can be sure it will do the heavy work for years – with productivity, reliability, and cost efficiency. Not to mention the low life cycle cost.

Same components make maintenance easier

Another unique advantage is that we essentially use the same types of components – engine, gearbox, hydraulics and electrical system – in all of our models. This means that if you have several different SMV trucks you can manage with fewer spare parts.





COLLABORATION TO ACHIEVE THE BEST TOTAL FINANCIAL P

Our goal is to work with our customers for the long-term. An important element in this cooperation is our Quality Concept (QC) which was formulated to offer you a long and successful ownership. The purpose of QC is to give you the best total cost of ownership. Quite simply, we want to share our knowledge to ensure that your truck from Konecranes Liftrucks will become the leading, most cost-effective solution.



The right service keeps the truck rolling

The right service carried out professionally is essential for a long lifetime for the truck with a minimum of downtime. Our trucks are designed to

make it as simple as possible to carry out service and maintenance. All service points are logically located to get the trucks back up and running quickly. Every truck we deliver has a set service schedule and we offer the necessary service through our distributors.



Spare parts to all parts of the world

Feel secure knowing that you can get the parts you need fast – no matter where you are. We deliver promptly

from our global network of distributors and partners or directly from our main warehouse. Daily shipments are available if you order parts from our main warehouse before 12 noon (Swedish time). This quick delivery applies to consumable parts that are always in stock.



ICTURE



Global service organization

As one of the world's leading manufacturers of heavy trucks, our customers also have high expectations for our ability to offer service. Our global service organization enables us to offer the service you need. You can also choose from various service agreements to ensure that your truck receives continuous maintenance and the best service available.



Customer service

An important element of our cooperation is that you always receive the best service in your contacts with us and our distributors. High accessibility and a flexible organization – with dedicated employees and short decision-making paths – mean that you get answers fast. When you contact us you receive personal attention.



Technical support – help when you need it

Technical support and expert problem solving are important elements for limiting breakdowns and avoiding unnecessary standstills. Our technical support gives you skilled help when you need it. You can reach the service department either locally or at our head office in Sweden, where you have access to technical specialists and experienced employees.



Training

We offer customized training for service technicians and drivers in cooperation with our distributors. The training program is tailored to the truck's application and equipment.



ADVANTAGES THAT MAKE THE DIFFERENCE

Konecranes Liftrucks feature an array of technical innovations which keep them in pole position among the world's leading manufacturers of Reach Stackers. Here are the technical advantages that our Reach Stackers offer. For a closer look at the driver-friendly, comfortable cabin and outstanding interplay between power and functionality, we recommend a test drive.



Powerful modern lift attachment for container handling optimizes trucks for your operation. Top lift for 20-40 ft containers, 300 degrees rotation, sideshifting, and 4 lift eyes for other goods. Option for power pile slope (side tilt), self-levelling power dampening (front/rear tilt), bottom lift, and other combinations.



Powerful low emission engines provide high torque at low revs, reduce consumption, and meet current environmental requirements.

Electronic overload protection, monitoring, and auto-joystick for safe handling of heavy loads, overload protection increases safety and reduces driver error. Monitoring increases reliability. Automatic RPM control of the engine when using joystick. Individual settings possible.

Strong, wide drive axles for safety and stability with high lifts and heavy loads.

Electronic controlled monitoring of engine, transmission and spreader with CanBus technology which gives increased reliability.



Maintenance-free brakes – trucks always have full braking power in every situation – all day, every day. The brakes feature continuous oil cooling with separate tank.

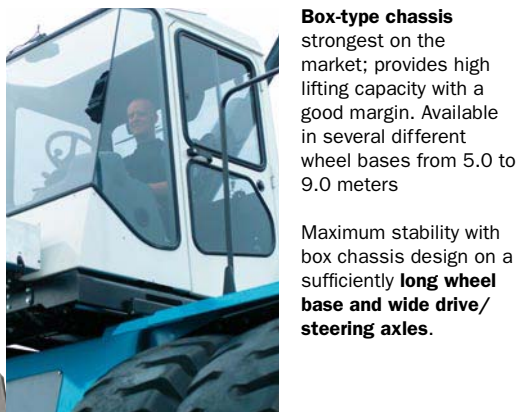


Service and Maintenance
To reduce maintenance costs during the lifetime of the truck we have extended the service interval on the engine (500 hrs), gearbox (1,000 hrs) and hydraulics (2,000/4,000 hrs).



Ergonomic cabin built for the ultimate in comfort, ergonomics, and visibility. The cab has low noise levels, minimum vibration, and a good overview of all instrument and controls.

Joystick is standard.



Box-type chassis strongest on the market; provides high lifting capacity with a good margin. Available in several different wheel bases from 5.0 to 9.0 meters

Maximum stability with box chassis design on a sufficiently **long wheel base and wide drive/steering axles.**

The trucks are equipped with **load-sensing hydraulics** where the lifting power is adapted to the weight of the goods and the truck only provides maximum power on demand, when it's really needed. In other words, the truck consumes less power and fuel while reducing emissions and noise.



TECHNICAL DATA

Chassis "box type"

- Heavy-duty box-type chassis
- Cross members in front/rear of the chassis
- High torsional strength with low stresses

Engine "low-emission"

- Certified diesel engines (Scania-Volvo-Cummins)
- 6-cylinder/turbo-charger/intercooler
- High flat torque curve at low revs for improved performance

Automatic Transmission

- Electronic control/monitoring/CanBus technology
- Automatic gear shift/reverse protection/inhibitor
- Neutral-only starting device/electric inching

Drive Axle/Brakes

- Wide drive axle/hub reduction/differential
- Wet Disc Brakes with oil cooling
- Fail-safe brake system/separate oiltank

Hydraulic System

- Load-sensing hydraulics/variable piston pumps
- Fuel efficient/low energy hydraulics "Power-On-Demand"
- High-speed lifting and lowering

Electric System

- Electric system 24V/CanBus/EMC-approved
- Full road lighting for the complete truck

Electronic Machine Control EMC-system

- Electronic overload, monitoring and safety system (EMC – Electronic Machine Control)
- Prevents lifting, lowering and extension in overload situations
- Monitoring display 6,5" for drive line/spreader

Driver's Cabin

- Modern/spacious cabin for optimal ergonomics
- Very good visibility in all directions (no front posts)
- Joystick operation of the lifting functions
- Low noise level and minimum vibrations

Boom 2-stage

- Telescopic box-type boom with pivot mounted rotator
- Self-levelling and hydraulic dampening of spreader
- Sideshift: ± 800 mm
- Rotation: -105/+195 deg

Attachments/Spreaders

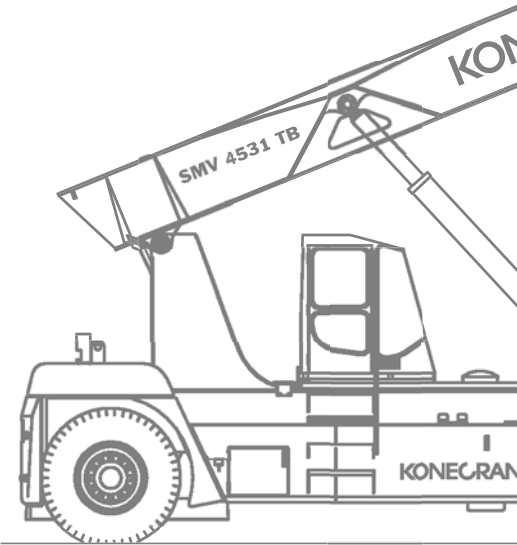
- TB Top lift for 20-40 ft containers incl 4 lash eyes
- CB Combi lift for containers & trailers
- Quick-change attachments for steel
- Slab Grab unit or coil C-Hook

OPTIONS

- Various engine ratings (power/emissions)
- Additional spreader functions
- Additional equipment for cabin and chassis
- Additional EMC functions, i.e. mini/lever steering

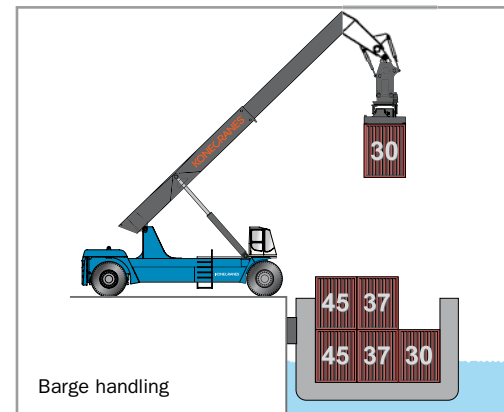
ACCESSORIES MAKE YOUR REACH STACKER A FLEXIBLE WEIGHTLIFTER

Our Reach Stackers are incredibly effective at lifting containers in every weight class. These powerful trucks can also be used to lift other types of goods or heavy machinery components. Here is a sampling of the various tools and accessories that make your Reach Stacker a flexible weightlifter.



What job will your Reach Stacker tackle in the future?

A Reach Stacker equipped with a tool carrier can easily be adapted for the goods you want to lift. Below are some examples of effective accessories that make it possible to lift everything from steel slabs and steel coils to concrete and stone, machinery components and other special goods. Properly equipped, an SMV Reach Stacker is a powerful and versatile truck for heavy, long, and high lifting – placing the goods exactly where you want them. In other words, a powerful universal truck.



Lift unit for pipes/tubes.



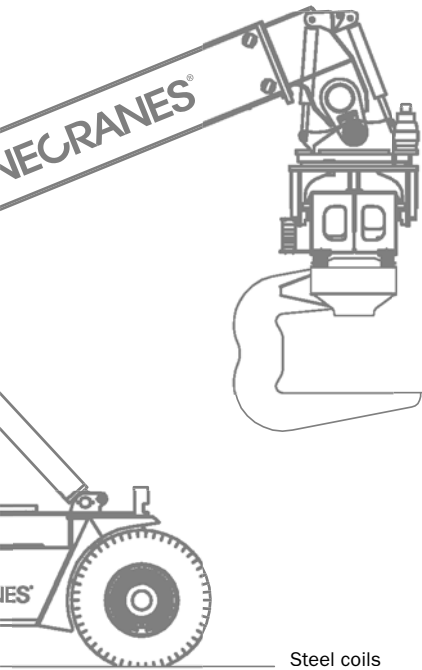
Lift unit for machinery components.



Lift unit for steel slabs and coils.

Weighty wings for wind power

Equipped with a special frame, SMV's biggest Reach Stacker lifts all types of goods including large machinery, turbines, and other heavy equipment – in this case 30-meter long wings for a wind power plant, up to 80 tons.



Steel coils



Combination attachment handles containers and trailers

Reach Stackers that work in settings such as rail terminals are often equipped with a combination attachment that enables them to lift both containers (top lift) and trailers (bottom lift).



Movable cabin for optimal visibility

Equipping the Reach Stacker with a hydraulically movable cabin provides the driver with the best possible conditions for optimum visibility in any maneuver, while improving safety. The truck can also be equipped with an adjustable height cabin.



HEAVY LIFTING



STANDARD LIFTING



SERVICE

NOT JUST LIFTING THINGS BUT ENTIRE BUSINESSES

Konecranes customer services and lifting equipment keep production processes up and running around the world, meeting tough end-user demands for increased uptime, reliability, safety, top performance and the lowest possible lifetime costs, supported by 7,000 employees, at more than 340 locations in 38 countries.

Konecranes Liftrucks is a part of Konecranes the world-leading group of lifting businesses, serving manufacturing and process industries, shipyards and harbours with productivity-enhancing lifting solutions and services.



KONECRANES LIFTRUCKS

We build trucks based on your needs, which makes them ideal for your purposes. These are some of the factors that make Konecranes Liftrucks a leading manufacturer in terms of quality, productivity, and life cycle cost. We offer you three complete lines of trucks.

SMV Fork Lift Trucks is one of the market's most extensive range between 10 and 60 tons. In addition, few competitors can match our selection of the biggest machines.

SMV Container Lift Trucks for empty and laden containers, as well as for RoRo-trucks, a complete line-up of specialized trucks.

SMV Reach Stackers for handling empty and laden containers, for trailers on railroads with multiple tracks, and for loading barges at waterways. We also have Reach Stackers for industrial handling of steel, heavy machinery, concrete and similar goods.