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**WEADNE** WE DELIVER THE FUTURE. The Trailer Prog





## WE DELIVER THE FUTURE The Trailer Programme.











Production facility Tire (Turkey)

Production facility Werlte



Bernard Krone (Dipl. Kfm.) Managing Director and co-owner of Bernard Krone Holding GmbH & Co. KG

## COMPREHENSIVE TRAILER SERVICE PROVIDER

"In the past, we frequently noticed that our customers not only wanted to benefit from our expertise as a trailer manufacturer, but also wanted us to be a complete service provider for everything to do with trailers. We have responded to this by, for example,integrating the expertise of the axle manufacturer gigant with our company, which now enables us to offer our own KRONE axle. However, with the "All-in-KRONE" trailer, all other components are now available in KRONE-Look; this makes life significantly easier for transport companies, as now they only need one contact person to answer all their questions concerning service, maintenance and spare parts.

Moreover, KRONE is also continuing its service offensive in the service sector. This Includes parts, telematics, financing, service packages such as FairCare, and our used trailer service, KRONE Used. Additionally, with our new service offer KRONE Fleet, we are always a reliable partner for our customers in all sectors.

Naturally, the development of sector-specific trailers is still in our focus, such as the Mega Liner Multos Plus, that can be converted into a Profi Liner within a couple of hours. Another important topic is the weight optimisation of trailers so that transport companies can achieve maximum payloads, even when using heavy tractor units with EURO 6 engines.

KRONE has been manufacturing for 50 years at the Werlte location; our inspiration is drawn from past experience combined with a responsibility for the future. In this respect, I am looking forward to the challenges which future decades will bring.

Bruardkoore

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## WELCOME TO THE HOME OF EFFICIENCY. THE DEVELOPMENT OF THE KRONE COMPANY.

A COMPANY WHICH PROVIDES MOVEMENT FOR THE WHOLE OF EUROPE. IN THE TRANSPORT BUSINESS, KRONE STANDS FOR EXCELLENT QUALITY, MINIMUM LIFE CYCLE COSTS AND MATURE PRACTICAL SOLUTIONS. IN SHORT: KRONE'S TRAILERS THAT SET STANDARDS.



## WITH US, THE FUTURE HAS ALWAYS BEEN A TRADI-TION. THE DEVELOPMENT OF THE KRONE COMPANY.

IN 1906, KRONE WAS FOUNDED AS A SMALL BLACKSMITHS SHOP. THE BLACKSMITHS IN SPELLE QUICKLY DEVELOPED INTO TO A REAL THINK-TANK AND THE KRONE NAME HAS BEEN ASSOCIATED WITH INNOVATIVE ENGINEERING EVER SINCE. IT HAS ALSO REMAINED AS A TRADITIONAL FAMILY BUSINESS THAT IS ALWAYS AWARE OF ITS RESPONSIBILITY TO-WARDS CUSTOMERS, SUPPLIERS, EMPLOYEES AND THE ENVIRONMENT.



#### The foundation of the company.

The origin of the company dates back to 1906, when Bernard Krone started his own blacksmith's shop in Spelle; his business quickly won recognition in the neighbouring villages. The company started to grow, the two sons Bernard and Heinrich Krone joined the business and became more and more specialised in the development, production, and sale of agricultural machinery, which turned out to be a successful decision: for the company continued to grow during the next 50 years.

1948

#### The development of the commercial vehicle programme.

In the 1960s, the management thought about a second string on the company's bow, which should be independent of agriculture. This was how the production of commercial vehicles started in the KRONE plant in Werlte in 1971. The chassis produced demonstrated the quality of KRONE's build; so the demand continued growing. From the very beginning, the company exclusively used components from well-known manufacturers and reliable corrosion-protection and prioritised the development of new and efficient transport solutions.

#### The high-flyer in the trailer business.

In the specialist sector, the company was quickly regarded as a high-flyer; between 1971 and 1980, production was increased from 100 to 2,000 units per year. Thanks to a sales and development policy geared to international business from the very beginning, the quality of the products



#### 1906

Foundation of a blacksmith's shop by Bernard Krone; this is a photo of Bernard Krone with his wife Anna and their children Bernard, Heinrich, and Katharina.



Continuous company

growth in the field of ag-

ricultural machinery, with

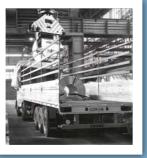
the development of agri-

cultural trailers.



#### 1971

At the new production site in Werlte, KRONE starts to manufacture commercial vehicles.



1973

Launch of the Coil Liner. The first trailer with a special well for transporting steel coils safely.

# 1981 KRONE develops the short

coupling system, which

considerably increases the

transport capacity.



1990

Being the first manufacturer, KRONE presents a Mega Trailer with a clear internal height of 3,000 mm.

quickly spread across Europe. Thus Fahrzeugwerk Bernard KRONE steadily continued to grow during the 1980s and 1990s and optimised transport efficiency through a lot of new developments, such as short coupling systems, megatrailers, and many other innovations.

#### 1997

KRONE is the first manufacturer world-wide to introduce the KTL plus powder procedure for a long-term protection against corrosion.

#### 1999

Safe, more economic, quieter. The innovative Safe Liner sets new standards for the transport business.



#### The reinvention of corrosion protection.

The completion of the new painting installation in 1997 was really ground-breaking. At its time it was the most state-of-the-art installation in Europe and a breakthrough in corrosion protection, which was at the same time so ecologically advanced that the then Premier of Lower Saxony called the painting 'exemplary' and showed up personally to put the plant into operation.

Using cathodic dip painting, KRONE combined character with durability. The environmentally friendly powder coating thus achieving a high quality and durable paint finish, on which the company grants a ten year guarantee.

#### Exemplary quality and first class service.

By concentrating on the Cool Liner Duoplex Steel, KRONE sets a clear objective: To focus on the demands of the market and the development of practical solutions for the secure handling of temperature-sensitive goods. In addition to exemplary product quality, KRONE also offers a comprehensive service covering every aspect of the trailer, including finance, rental and used vehicles.

#### KRONE - now also strong in axles.

With their own new Trailer axle, now part of the "All-in-KRONE" trailer- where all components are stamped with the KRONE logo and a KRONE reference number - KRONE excels as a high quality service provider. Customers now have a specific reference number relating to all questions regarding service, maintenance and parts, and a faster service is guaranteed. KRONE - Your reliable and versatile partner. Experience the new versatility of KRONE.



With the Multi Safe Sys-

tem, KRONE introduces

a load securing system

which is extended in the

new design and wins a lot

of international awards.



2004



#### 2006

The Euro Combi sets new<br/>priorities in the discussion<br/>about efficient, fuel-saving<br/>long-distance haulage.The company celebrates<br/>its 100th anniversary and<br/>the opening of the large<br/>KRONE TrailerForum in<br/>Werlte.



2008

With the innovative Profi Liner ECO, KRONE has developed an aerodynamic trailer which significantly reduces fuel consumption and CO<sub>2</sub> emissions.



2010



#### 2012

KRONE passes the baton. Dr. Bernard Krone hands company leadership to his son Bernard.

Through the Aero Liner project , KRONE is consistently pursuing the subject of energy-efficient trailers.

#### 10 KRONE

2000

#### We deliver the future.

The company today is already well armed for tomorrow's challenges. KRONE is working on ground-breaking future projects, such as recuperation technology, Profi Liner ECO, Aero Liner, and new insulation techniques in the field of refrigerated boxes. With its ecologically sound production procedures and its comprehensive training programmes, the company ensures that future generations will be able to rely on KRONE standards.



#### 2013

With the opening of the KRONE Doğuş Trailer factory in Tire (Turkey), one of the most modern trailer factories has gone into operation. The target markets are Turkey, the Middle East, Central Asia and Africa.

#### 2014

After acquiring the gigant Trenkamp & Gehle Achsenfabrik in 2013, KRONE introduced their own KRONE Trailer Axle.

## PLENTY OF SPACE FOR YOUR LOAD. THE VERSATILE KRONE TRAILER PROGRAMME.

THE TRAILER PROGRAMME WHICH SETS STANDARDS IN TERMS OF INNOVATION AND QUALITY.



# THE RIGHT SOLUTIONS FOR ANY REQUIREMENT IN THE TRANSPORT BUSINESS. DISCOVER

## UNIQUE KRONE QUALITY. OUR BRAND MARK FOR MORE THAN 50 YEARS.



WE HAVE COMBINED INNOVATION AND QUALITY IN AN IMMAGINITIVE STYLE, SINCE THE FIRST KRONE TRAILERS WERE PRODUCED. WE HAVE REMAINED TRUE TO THIS PRINCIPLE FOR MORE THAN FIVE DECADES AND CONSEQUENTLY OUR TRAILERS REMAIN IN A CLASS OF THEIR OWN WITH REGARD TO ROBUSTNESS, EFFICIENCY AND PRACTICAL APPLICATION. MOREOVER, WE OFFER A WORLD OF COMPREHENSIVE SERVICE TO KEEP YOU AND YOUR TRAILER SAFE AND SECURE.

#### But just being better is not good enough for us. Quality and leadership in innovation.

Extreme loading requires strong solutions . For this reason, durability at KRONE has the highest priority in every respect. Efficient welding procedures, reliable equipment

The KRONE quality and high quality components set the benchmark in innovation for safe and secure transport, thereby ensuring the highest standards of trailer operation.

#### All from a single source. KRONE, your service provider.

The term "All-in-KRONE"-Trailer refers, among other things to the entire KRONE trailer whereby all components bear the KRONE logo and a KRONE reference number. This makes everyday life much easier because now you have a specific reference number for all questions referring to service, maintenance and parts -plus we can help you even faster.

#### Maximum efficiency. Minimum life- cycle costs.

Regardless of whether the parts are 100 percent KRONE or from other well-known quality manufacturers, you have the choice with us. It does not matter which you decide, as in all cases you are provided with a trailer with excellent

#### THERE ARE MANY GOOD REASONS TO CHOOSE KRONE. QUALITY AND SERVICE FEATURES.

- Maximum economy due to minimum life cycle costs.
- Everything from one source for a quicker service.
- Highest stability and sturdiness.
- Certified load securing systems.
- Ten year anti-corrosion guarantee thanks to the cataphoretic dip painting powder coating process
- Fair financing models with KRONE Finance.

equipment and the assurance that you can rely on a comprehensive European service network when required. Another key plus point for value retention: ten year guarantee for the paint finish using the cataphoretic dip powder colouring process. Every KRONE trailer comes with cathodic dip painting and subsequent powder coating, and is provided in the colour of your choice. In this way the chassis is finished in a high gloss, resistant to stone chipping and delivered with the best possible corrosion protection.

- Optimum support by the KRONE After Sales Service, as for example the Spare Parts Service.
- Full-service packages with KRONE FAIR CARE.
- Intelligent telematics system KRONE Telematics.
- Favourable second-hand trailers from KRONE Used.
- Straightforward KRONE vehicle financing or long-term rental with KRONE Fleet.

#### Open for every transport requirement. Exemplary service.

Rest assured that KRONE has thought of everything. And KRONE's quality assurance doesn't just stop at the trailer. As a full service provider, we look after every transport need.





#### Life cycle costs.

KRONE trailers are equipped with components from wellknown manufacturers which will reliably support you in reaching your economic targets. Because the life cycle costs are reduced to a minimum, due to the highest quality requirements and sophisticated transport solutions, this ensures maximum financial efficiency.

#### KTL plus powder in the colour desired by you.

One of the important KRONE advantages is the KTL plus powder painting, the cataphoretic painting with subsequent powder coating in any desired colour ensures optimum brilliance, highest stone-chipping resistance, reliable protection against rust break through and thus the best possible preservation of your vehicle's value. And this is guaranteed for ten years.



#### Stable chassis.

The welded chassis of the KRONE trailers are designed for the requirements of the tough day-to-day transport business. Extremely sturdy and extraordinarily stable, they can excellently cope with any requirement of quick loading and unloading cycles.

#### Flexible load securing.

Your loading will be excellent and safe. The certified load securing system Multi Safe System meets any requirements of transport safety in a flexible, practicable and reliable way.



#### Axles and chassis.

A completely new product in the KRONE product range is our own KRONE Trailer axle, a high quality, low maintenance and reliable axle at a fair price. Naturally, the proven serial components from other well-known quality manufacturers are still also available. Whatever you should choose, you are guaranteed to be provided with a trailer that has excellent equipment. And you have the assurance that in the event of service, you can be provided with the correct replacement part at any time and anywhere.



## KRONE TRAILER AXLE. QUALITY FEATURES.



KRONE STANDS FOR OUTSTANDING QUALITY, MINIMUM LIFE CYCLE COSTS AND MATURED PRACTICAL SOLUTIONS. BRIEFLY: KRONE SETS THE BENCHMARK FOR TRAILERS. THIS IS WHY KRONE WILL FROM NOW ON ALSO OFFER YOU THEIR OWN AXLE AND THUS, THE COMPLETE TRAILER FROM ONE SOURCE. FOR YOU, THIS MEANS: ONLY ONE CONTACT PARTNER FOR SERVICE, MAINTENANCE AND REPAIRS.

#### Manufactured for a long trailer life.

Low life cycle costs are a basic rule at KRONE. From the first step of production of the KRONE Trailer Axle, quality and durability have the highest priority. The solid basis for a reliable and durable trailer.

#### Efficiency taken to its limits.

In detailed and controlled work, the chassis, axles and brake system are bolted together and the tyres and superstructure are mounted. And finally, all of this is checked comprehensively for correct function and possible leaks. In this way, KRONE trailers are in a class of their own in robustness, practicality and efficiency.

#### Tested and found suitable for durable use.

No trailer leaves our courtyard that we are not 100 percent happy with. Together with the Fraunhofer Institute, we have thoroughly tested the KRONE Trailer Axle on the basis of strict specifications. With success: Our axle managed to satisfy in all points in a durability test.

#### Low maintenance up to 6 years without mileage limit.

We do not only promise you quality: We supply it to you. A check in the scope of your annual main inspection is sufficient and we grant you a full 6 year guarantee on the bearing and axle body without mileage limit for the KRONE Trailer Axle.





#### High performance.

The special single-tappet mechanism of the brake ensures a uniform distribution of the pressure and thus averts the risk of angled wear. Due to the continuous ringshaped contact surface, forces are distributed in an optimum manner from the flange to the rim, which avoids rim rupture and bolt breakage.

#### Robust and durable.

The main surfaces are pre-treated with a zinc phosphate and then, for the best possible protection against stone chipping and corrosion, provided with a cathodic dip coating.

#### Permanent reliability.

The geometry of the brake disc is optimally adapted for daily use. A long service life, with continuously safe operation is therefore assured. The hub flange, made from one casting without hub cap, prevents faults when changing the brake discs as the wheel bearing unit does not have to be dismantled.





#### Safety and stability.

The robust and forged axle body is made of one piece. This results in the best possible dimensioning of the bending and torsion loading as well as the highest possible safety against axle breakage.

#### Maintenance-friendly concept.

Brake pads that can be replaced without using special tools as well as a quick and easy change of brake discs without having to remove the wheel bearing permit a brake service within a very short period of time. Moreover, the track can be set quickly and easily. The axle can also be retrofitted with an axle lift at any time.

#### Ideal heat dissipation.

Thanks to the innovative design, there is more space between the brake disc and the maintenance-free wheel bearing unit. This ensures for a controlled heat dissipation and increases the service life of all components.

Technical data	
using the profi liner as an exam	nple

0	•
Axle load:	9,0 t
Offset:	ET 120 mm
Brakes:	22,5" Haldex Module DBT22LT
Brake cylinder:	Wabco
Track / spring centre:	2,040 mm/1,300 mm
Coupling height:	240-300 mm
Total lift:	190 mm
Bellows diameter:	300 mm
Axle tube diameter:	127 mm
Ground clearance under the axle lift:	380 mm (depending on tyres)

# PROFIS - THE ALL-ROUNDERS. THE KRONE SEMITRAILERS.

DISCOVER THE MOST RELIABLE PROFESSIONALS IN TRANSPORT BUSINESS. THE FOUR SEMITRAILERS IN THE KRONE TRAILER PROGRAMME HAVE A LOT OF PRACTICAL FUNC-TIONS. AND ONE IMPORTANT THING IN COMMON: THE SOPHISTICATED, ECONOMIC, AND STURDY BASIC EQUIPMENT OF THE PROFI LINER SERIES.





**PROFI LINER** MEGA LINER COIL LINER PAPER LINER **ULTRA SERIES** 

## DISCOVER THE ECONOMY OF THE FUTURE. THE PROFI LINER.



AN EXAMPLE OF PROFESSIONALISM, A MODEL OF PROFITABILITY. THE KRONE PROFI LINER IS SO SOPHISTICATED AND MATURE THAT IT IS THE INSPIRATION FOR THE WHOLE GENERATION OF INNOVATIVE KRONE SEMITRAILERS.

Certified

stability

superstructure

#### The model for the KRONE semitrailers.

Equipped with high-quality series production components down to the smallest detail, the Profi Liner is sturdy, reliable, practical, and above all: extremely cost-efficient, features which made it the model for all KRONE semitrailers and which will definitely be to your benefit.

## The Profi Liner's fundamental law is value preservation.

This starts with the welded chassis. It is extremely sturdy and stable without being too heavy. The basic equipment with premium cataphoretic painting, the first-class series production components and the award-winning Multi Lock external frame guarantees

low life cycle costs, stability and, if required, practical replacement.

**The professional that can hardly wait for the future.** Even today, the Profi Liner is well prepared for future semitrailer tractors. Due to the height-adjustable running gear, the coupling height is variable from 1,050 to 1,170 mm.

#### Loading in minimum time.

Because every single minute counts in the transport busi-

ness, the Profi Liner allows loading and unloading in minimum time. Practical side posts, Sliding roofs as well as ideal strapping and locking mechanisms ensure that loading does not cost time, money, or headaches. And because individual transport requirements need individual solutions, we tailor the Profi Liner exactly to your requirements, using a multitude of optional equip-

ment facilities. Whatever you need: The Profi Liner has the right answer to every transport question.









Robust side guards.

The side collision protection is firmly screwed to the frame and powder-coated in white for safety reasons.



Effective spray protection.

The wheel arches and the mudguards are provided with spray suppression as standard.





Safe telescoping ladder. Due to its large, conspicuous step, the stepladder ensures easy climbing and optimum working safety.



Protected valves. The setting valves are well protected behind the axle assembly. The wheel chocks, too, are always at hand there.

24





## Underrun protection and light panels as individual components.

The separate and screwed-on execution of the components allows a quick and smooth replacement.

#### Double collision protection.

A chassis which is pulled up at the front and the plywood rebound plate, which is screwed to the front wall, guarantee protection and stability.

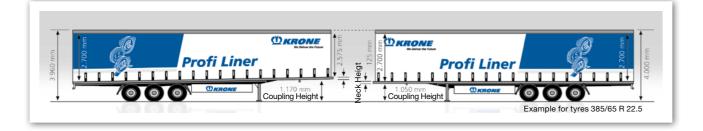


#### Solid coupling support.

Connections for light and air on two levels avoid cable chaos. Connections for a second travel height adjustment unit are available upon request.



Multi Lock external frame. Strapping points at intervals of 100 mm for universal load securing.



#### Flexible application to all tractors.

Even today, the Profi Liner is well prepared for future semitrailer tractors. The coupling height is variable from 1,050 to 1,170 mm. This is made possible through the height-adjustable running gear in combination with the KRONE screwing technique: The front wall / roof connections and the side post carriage are designed with a hole pattern and can thus be adjusted with low expenditure. The side curtain and the roof curtain can (ex works) be tailored so that they can be easily adapted to the modified superstructure height. Of course, the internal height can be returned to the original measure, if required. Thus the Profi Liner is well equipped for all manners of trailer operations.



Solid three-part front wall. It is made of steel and firmly screwed to the frame. The roof height can be selected from 2,575 mm to 2,800 mm.



Practical side posts. The simple handling of the side posts via one-hand operation facilitates loading and unloading.



#### Comfortable sliding roof.

For using a crane directly at the front wall, the sliding roof can also be opened from the front to the rear after opening the curtain buckles.



Solid curtain tensioner. Integrated at a protected position at the rear, it provides sufficient leverage for a tightly fitted curtain.



#### **Quick release** curtain tensioner. Due to the turn tension

lever on the front wall, the curtain can be opened and closed quickly and easily at the front, too.

Practical locks. Integrated turn rods and

embedded door locks (optionally four locks) for flush outer walls.

#### PROFI LINER. BOARD WALL EQUIPMENT.





#### Optional rear double-wing door.

The rear wall can also be provided as a double-wing door. It has the same height as a board wall and features one-hand operation.



Multi Lock equipment. Tension straps with flat hooks allow using the Multi Lock external frame even when the side walls are closed.



High container door. For quick loading and unloading from the rear, there is the board wall vehicle also with higher container door.







#### **Building Material Profi Liner.**

The Profi Liner is also available as an open van with board walls in heights of 550, 750, and 1,000 mm. Optionally, the front wall height is 1,200, 1,600, or 2,000 mm.



#### Solid board wall protection.

An integrated collision protection system prevents side wall damage whilst loading and unloading from the side.

#### PROFI LINER DOUBLE DECK





#### Doubledeck equipment.

Five pairs of centre posts subdivide the superstructure into six fields. Due to twelve longitudinal loading beams with hole pattern, 23 transverse beams are received, resulting in 33 additional pallet storage places on the second loading level.

# The state of the s

#### Simple loading beam handling.

The double deck bars are locked within the hole pattern and are self-protected; the same applies to the transverse beams.



Simple side posts fixing. Due to the comfortable one-hand operation, the side posts can also be simply unlocked and shifted in case of a doubledeck superstructure.

#### PROFI LINER HUCKEPACK.



Railway transport equipment. Naturally, the KRONE Profi Liner is also available with special equipment for railway transport.



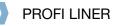


#### Robust equipment.

Strong curtain edges and double thickness panels guard against damage during crane and fork lift loading.

## Sophisticated handling.

Loading beams that are not in use can be stored longitudinally between the centre posts, in the same way as planks. Plank pockets allow flexible applications.





#### Raising the underrun protection.

Depending on the tractors in use, the underrun bumper and the side guards can be folded away and locked easily.



#### Axles with split airbags.

During the loading process, the (BPW) air suspension bags automatically raise to avoid stretching. Thus damage during spring deflection is avoided.

## PROFI LINER CITY.





#### Profi Liner City. Agile in inner-city cargo traffic.

Inner-city cargo traffic as well as construction site traffic place particular demands on transporting goods: It requires flexible, robust and, above all, versatile trailers to be able to operate efficiently even in the narrowest of



these demands: a robust chassis, low-maintenance and quick response one-bar forced steering form the basis for this.



#### Extreme mobility.

The forced steering is a proven one-bar system, integrated in the running gear and low-maintenance. The steering angle of 25 degrees allows manoeuvring in very restricted space.



## Profi Liner TIR.

Flexibility in International Transport.

With Profi Liner TIR, KRONE has been providing a sliding curtain trailer with customs seal since 1999.

Designed for the requirements of shippers operating within and outside the European Union, KRONE has optimised the Profi Liner TIR even further.

Curtain buckles in customs version on the outside frames, as well as bespoke solutions in locking technology prevent





**Special locking technology.** The front and rear curtain tensioners are secured against access by concealing the customs cable behind a specially designed flap.



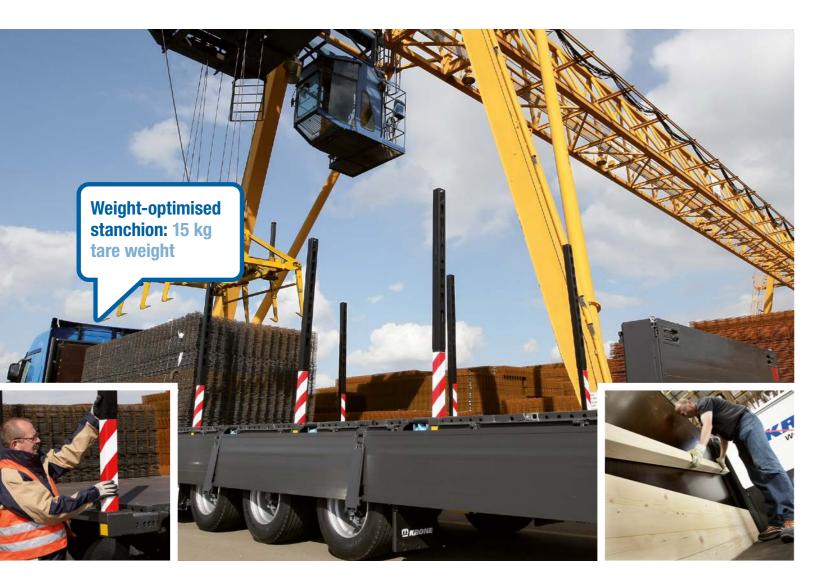
unauthorised opening of the cargo compartment. With the board wall body, the curtain buckles remain in the curtain retainer of the board wall. The same technology is also used for the customs version lock on the Mega Liner. Standard curtainsiders are fitted with a TIR Edscha sliding roof.





# Suitable for combined traffic.

The Profi Liner TIR is also suitable for railway transport; the trailer can be transported at speeds of up to 140 km/h by rail (Code XL).



WITH PROFI LINER MULTI STEEL KRONE OFFERS A SOLUTION FOR FORM-CLOSED AND EASY LOAD SECURING OF REINFORCEMENT MATS, LATTICE GIRDERS AND 2D/3D ELEMENTS. BE-NEATH THE SIGNIFICANT GAIN IN SAFETY AND TIME COMPARED TO THE USUAL TIE-DOWNS WITH A VARIETY OF LASHING STRAPS, THE KRONE SYSTEM OFFERS A FAST HANDLING BY VEHICLE INSPECTIONS BY THE POLICE OR THE LOCAL ENFORCEMENT AUTHORITIES. THE PROFI LINER MULTI STEEL IS AVAILABLE ACCORDING TO YOUR REQUIREMENTS AS PLATEAU OR SIDE BOARD VERSION.

The Profi Liner Multi Steel puts an end to complex and timeconsuming tie-down. The friction between the load and the load platform is increased by tieing-down. The force which the lashing means press on the load must come till the bottom in order to increase the friction between load and load platform. And exactly this effect is by the tieing-down of flexible reinforcement mats only achieved with immense effort. Furthermore, there is a danger of damaging the 2D/3D elements through the tieing-down. Therefore, form fit is the better solution for these goods in transit. The variable post system made by KRONE guarantees this form-fitting and is suited for securing reinforcement mats according to the load securing regulation VDI 2700. Thanks to the post technique, it is possible to transport higher payloads and higher loads, compared to other solutions recommended in the loading regulations. Further advantages: Just a few actions are required for correct load securing, load securing according to the standards and regulations are much quicker than with conventional securing methods. Whereby, load securing is mostly possible from the ground. Dangerous "gymnastics" on the mats is a thing of the past.



#### Universal transport options.

The posts on the Profi Liner Multi Steel are variable in position and thus make it possible to transport reinforcement mats 5 and 6 m long safely.



## Front support with bracing.

In addition to the laterally extendable posts, there are additional post pockets in the neck area and in the middle of the vehicle for securing to the front and rear.



Remarks

#### lashing strap guide. The integrated lashing strap guide increases the safety

Plug-in posts with

guide increases the safety because the strap is guided through for this provided material cut and thus cannot slip.

## Practical palet box.

In case of non-use of side panels, the side panels together with centre stakes and stakes that can be inserted are accommodated in an optional stowage box with suitable mountings.

#### In case a vehicle is used for indivisible cargo of more than 2,550 mm in size, a certificate of exemption (according to sec. 47 of FZV in Germany) is necessary that must be issued in the name of the vehicle owner. The TÜV CERTIFICATE require for this purpose is included. This certificate mentions data/sizes to be maintained by the truck (e.g. no. of axles: 2; width: 2,550 mm; fifth wheel load: 540 mm; centre distance: 3,600 mm; couple size "a": 4,500 mm) that are to be observed for meeting the requirements of cornering characteristics according to sec. 32d of StVZO. In case of deviations or uncertainty, it is important to verify beforehand that the articulated vehicle in question in combination with the corresponding semitrailer meets the requirements of cornering characteristics. We are glad to help you here.







#### Winches.

The vehicle has 6 winches on each side for 8 mm lashing ropes or corresponding lashing straps. Per winch one lashing ring for heavy cargo is integrated.



#### Lateral securing.

Per side 6 extendible post pockets. Likely available sizes: 2,010, 2,120, 2,190 and 2,300 up to 3,050 mm.



Flexible lashing positions. 6 pairs of Multi Lash lashing rings are provided as standard. The lashing ring positions can be positioned in variable locations on the external frame.

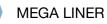
#### PROFI LINER MULTI STEEL - THE ADVANTAGES

- Form-fitting securing.
- Increased flexibility with various different loads.
- Tested by TÜV Nord.
- 50 % time saving when load is secured.
- Reduced time for vehicle checks by the police and local enforcement authorities.
- Load sercuring certificate for reinforcement mats in accordance with VDI 2700.
- Weight-optimised posts that can be inserted with integrated guide for lashing straps.

## MAXIMUM VOLUME FOR MEGA ECONOMY. THE MEGA LINER.



ficient hydraulic lifting roof which permits loading and unloading at top speed. There is the Piggyback version and port of high-volume goods. Mega Liner, with which high-speed routes can be used Whereas the Mega Liner Variofloor offers an extremely in freight transport. Moreover, the Mega Liner Coil now flexible use of loading space for packaged goods due combines flexibility in volume transport with a reinforced to its adjustable floor which can be set at three different chassis as well as a coil well of 7,236 mm in length for the heights. The Mega Liner is a truly versatile professional when it comes to handling top transport tasks. transport of steel coils in one vehicle.



EasyTarp side curtain permit even more efficient trans-

## MEGA LINER. PRODUCT FEATURES.





Proven rising roof hydraulics.

Operating the hydraulic rising roof is very simple (car jack principle). Everybody does it intuitively right.



## Body height adjustment at the front.

The easily operated height adjustment offers the possibility to adapt the total height to different tractors.



Mega Liner Huckepack.

The Mega Liner is also available as huckepack execution for railway transport with the wagon types pocket wagon Mega2 and T5 by Hupac, 'sail' wagon and its advanced version T3000 as well as the articulated double-pocket wagon TWIN by AAE.





#### Practical side posts.

The side posts are easily operated and adjusted for height adjustment.



#### Travel height adjustment of the door latches.

There are locking arrangements for three different body heights integrated in the roof beam.



#### Mega Liner Coil.

Equipped with the proven coil well and a reinforced chassis, the Mega Liner is also available for transporting steel coils.



In order to achieve long-term flexibility and high retention value in the fleet, it is ideal to be able to adapt the trailer height when required and just this is provided by the multos. By means of the adjustable roof, the height of the trailer can be adapted to the respective coupling height of the tractor unit. Thus, the maximum permissible overall height is observed at all times.

#### One trailer for all tractor units.

Today a tractor unit with a coupling height of 1,150 mm, but in the future, a mega unit with a height of 965 mm. Limitations in the trailer's use occur only where the legally permissible

One trailer for all tractor units. exceeded. The Multos however, opens new possibilities in this respect and when adjusting the roof height, internal

overall vehicle height might be

heights of 2,700 to 3,000 mm can be achieved – a distinctive advantage for the transporter. In this way, the trailer can be used for all conventional tractors with ASH 965, ASH 1,050 and ASH 1,150 mm - for maximum flexibility in the fleet. This allows the trailer to be used in many different ways and this also improves its resale value.

#### Flexible height adjustment.

The conventional travel height adjustment of the existing Mega Liner standard roof with an internal height of 3,000 mm can be lowered in three stages by up to 150 mm. The Multos, on the other hand, can be set lower by a further 150 mm, using additional adapters in the adjuster unit if the trailer needs to be coupled to a standard tractor with a ride height of 1,150 mm.



#### KRONE Mega Liner Multos Plus -From Mega Liner to Profi Liner in just 5 hours.

Converting a Mega Liner into a Profi Liner – in just a few hours. KRONE is now offering this solution with the new Mega Liner Multos Plus.

Conversion of a special trailer for volume transport (coupling height 950 mm) into a conventional standard trailer (coupling height from 1,050 to 1,150 mm) can be quickly executed with the Multos Plus conversion kit using the operating instructions provided.

During conversion, in addition to using additional air bag consoles and switching to 385/65 R 22.5 tyres, Multos Plus also uses an adaptor for the Multos power unit which raises or lowers the body to suit required ride heights









#### Raised roof depth.

The side wall height has been lowered to allow greater vertical adjustment while the standard roof depth has been raised by approx. 150 mm at the same time. Wheel boxes embedded in the floor allow sufficient clearater rance for the top of the wheels.



#### Key advantages at a glance

- Fast conversion with Multos Plus Conversion kit is available
- A flexible trailer, with a conversion kit to boost demand in the used trailer market.
- Higher resale value





#### Wheel boxes.

## MEGA LINER AUTOMOTIVE. JUST IN TIME.



KRONE HAS DEVELOPED THE MEGA LINER AUTOMOTIVE AS A CUSTOMISED SOLUTION FOR VARIABLE HIEGHT DEMANDS IN AUTOMOTIVE LOGISTICS. PRACTICAL FEATURES SUCH AS THE EASYTARP SIDE CURTAINS, THE HYDRAULICALLY ADJUSTABLE LIFTING ROOF, ALUMI-NIUM PROFILES VERTICALLY BUILT-IN TO THE CURTAINS, IN ADDITION TO SUPERSTRUCTURE HEIGHT ADJUSTMENT, MEAN THAT THE TRANSPORTATION OF VOLUME GOODS CAN NOW BE CARRIED OUT IN AN EFFICIENT, ECONOMICAL AND RELIABLE WAY.

## The specialist for automobile logistics - robust, light, safe and quick.

Because the automotive transport sector demands a high frequency of loading and unloading on a daily basis, the Mega Liner Automotive is designed with safety and effici-

70% time saving when loading and unloading ency as a priority: The EasyTarp side curtain saves a lot of time when opening and closing. The aluminium profiles integrated in the side curtains make timeconsuming handling of 'plug-in' planks unnecessary. Steel 'plug-in' planks are used to secure the cargo at the rear where the sturdy telescopic cross beams are inserted. This horizontal load securing system towards the rear offers the advantage that the sliding roof can be used for loading and unloading from the top without any limitations. The trailer has been equipped with the market-proven hydraulic lifting roof for additional space at the top. The Mega Liner Automotive complies with the requirements of Daimler load securing directive 9.5 and has been certified according to EN 12642, Code XL.



#### The curtain quick fastener.

The curtain opens from the front and rear. At the rear, the curtain is tensioned using a tensioning ratchet. By pressing a switch on the front wall, four pneumatically operated tensioning hooks release or tension the curtain on each side by releasing or engaging the four curtain buckles. The tensioner handles are recessed into the external frame to protect against damage (e.g., from a forklift).



### Horizontal

curtain tensioner. Horizontal curtain tensioning is carried out easily using a ratchet located on the side at the rear of the trailer.



#### Uncomplicated load securing.

Curtain tunic.

Aluminium profiles integrated vertically into the side curtains effectively replace 'plug-in planks' which might ordinarily be used.



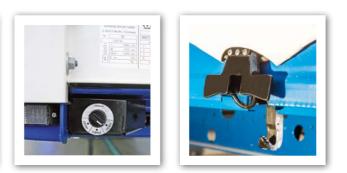
#### For fast and easy operation when reducing the body height, the lower section of the curtain can be adjus-

the curtain can be adjusted using a hook and loop fastener.

## Load securing of partial or mixed loads.

Steel cross members with telescopic adjustment are used to secure loads at the rear of the trailer.







#### Loading space right up to the roof.

The lifting roof makes it possible to load up to the traverse roof beam. The lifting roof from the driving position is 400 mm. A reduced body height by 100 mm can also be set for driving. The function of the quick curtain tensioner is unaffected regardless of height settings.

Your benefits at a glance
The sliding roof can be operated without limits
Only an approximate 200 kg extra weight
The curtain buckles cannot be damaged from forklift loading (the curtain is protected at the top behind the external beam and the curtain buckles are protected behind the external frame)
70% time savings when loading and unloading
Rear load securing proven in practice
Short amortisation/return on investment period



THE MEGA LINER VARIOFLOOR OFFERS INNOVATIVE, PRACTICAL SOLUTIONS TO ACHIEVE MAXIMUM FLEXIBILITY FOR MIXED AND PACKAGED LOADS.

#### Double-deck loading.

For maximum loading flexibility when carrying packaged goods, KRONE has developed the Mega Liner Variofloor. The loading and unloading is only carried out from the side of the vehicle and the rear is therefore equipped with a full curtain. The body can be adapted to take three

Double-deck for packaged goods separate floor sections, each of which can be independently adjusted in height to accommodate a maximum of 66 pallets. Each floor is 4,400 mm in length and has been designed for a payload of 4,000 kg (12,000 with Double-deck) and can be used for transporting loads on pallets that cannot be stacked such as those which are typical for packaged goods. This means that the loading area is used to its full capacity for packaged goods and also that the turn-round times are significantly reduced in comparison to conventional double stack systems with over 20 individual loading beams. Moreover, the Mega Liner Variofloor can be used flexibly and makes planning easier for the dispatcher.

The new trailer from KRONE also has a convincing environmentally friendly aspect. Transport is carried out more efficiently and less fuel is used per transported tonne, which also reduces CO2 emissions at the same time.



#### Easy handling of intermediate floors.

The intermediate floors are adjusted in height by the use of a fork lift and have corresponding integral pockets for the purpose. A slight raising of the floor is enough to release the toggle latches. Locking is then carried out automatically in the next, higher up locking position. Alternatively, the intermediate floors can be manually locked when, for example, they only need to be partially raised or lowered.

The intermediate floors are guided and locked onto the front and rear corner posts as well as to the centre posts. The floors can be moved independently of each other in six steps (each 350 mm) upwards or downwards. If the floor is locked in the middle position, pallets of 1,400 mm height can be loaded into the lower and upper floors with a clear internal height of 2,950 mm. If the intermediate floor is lowered to the vehicle floor, the maximum clear internal height is 2,800 mm.



#### Intermediate walls.

Aluminium locking bars are used between the fixed centre posts. They are used to secure the rear load and simultaneously serve as an additional wall for the next load section.







#### Centre lifting roof.

Using a hydro-pneumatic system, the roof can be lifted from a central position by 350 mm from all four corner posts at the same time.

#### Flexible

#### use of loading space.

Each intermediate floor, with a length of 4,400 mm, is designed for a payload of 4,000 kg and its variable height achieves optimum flexibility when carrying packed or mixed loads.

## HANDLES EVERY ROLL SAFELY. THE COIL LINER.





OFTEN COPIED, BUT NEVER EQUALLED: BACK IN 1973, WE REVOLUTIONIZED COIL TRANSPORTATION. IT WAS THEN THAT KRONE ENGINEERS DEVELOPED A SPECIAL WELL WHICH EVER SINCE HAS GUARANTEED THE SAFE TRANSPORT OF STEEL COILS.

#### Committed to safety. The solid equipment.

But, of course, we did not stop at this innovation. Since then, we have again and again found new, solid answers where safe coil transportation is concerned. The Coil Liner chassis is particularly reinforced; therefore, the trailer can optimally withstand even extreme load points. Apart from that, it is also designed to withstand a lot, with the durable KTL plus powder painting and sturdy series components. Really a vehicle for professional coil transports: stable, clever, reliable.





#### A steely professional for practical use. The functional equipment.

Practical details are important criteria, for they facilitate work, save time, and reduce cost. Therefore, the Coil Liner is available with a coil well of 7.23 m or 8.84 m length. Its solid chassis has numerous braces, if the load is put down roughly. Using ten pairs of heavy-load lashing rings and additional posts, steel coils are carried with maximum security and safety. And due to the Multi Lock external frame with numerous strapping points and forklift-compatible coil well covers it is also possible to transport any load whatsoever. The Coil Liner is certified independent of the type of load.







#### Optimum strapping angles.

The Multi Lock external frame allows safe down, direct, and inclined strapping of coils in any direction.



#### Solid plug-in posts.

Plug-in posts of the coil well ensure form-fitting and proper load distribution. Two plug-in posts (80x80 mm) are standard equipment; additional posts are available as optional equipment.



The light Coil Liner Ultra. The Coil Liner Ultra features 6,900 kg tare weight (only 5,850 kg in a special version). This provides significant additional payload.

Practical details are decisive criteria, for their facilitate work, save time, and reduce cost. Therefore, the Coil Liner is available with a 7.23 or 8.84 m long coil well.



#### Safe coil well.

Simple but ingenious: The KRONE well in the Coil Liner floor blocks uncontrolled movements of the steel coil.



#### Sturdy trough cover.

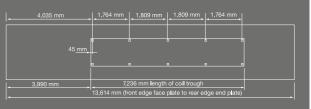
The coil well cover can be easily handled and is so solid that it is even forkliftcompatible (fork lift axle load up to 5,460 kg).



#### Extra strapping rings.

Ten pairs of heavy-duty strapping rings, with a strapping load of 5,000 kg, complement the manifold strapping points of the Multi Lock external frame. The strapping troughs are equipped with a cover.

#### POSITION OF THE COIL WELL (7.2 m, standard equipment)



#### POSITION OF THE COIL WELL (8.8 m, optional equipment)

4,035 mm	2,189 mm	2,188 mm	2,188 mm	2,189 mm	
45 <u>mm</u>	-	<sup>b</sup>	6	6 ê	
	<b></b>	<u>.</u>		<u> </u>	
3,990 mm		8,844 mm lengt	h of coil trough		H
	13,614 mm (front	edge face plate t	to rear edge end	plate)	

## TO ENSURE GOOD PAPER TRANSPORTATION. THE PAPER LINER.





ITS SAFETY IS CERTIFIED REGARDLESS OF ITS LOAD TYPE.

Here, paper is the star. The Paper Liner stability.

Paper is a heavy load with special requirements. A trailer that transports paper must meet these special requirements. The KRONE Paper Liner is a tailored solution. The solid construction of the Paper Liner features the newly developed KRONE chassis, which, due to its short cross beam spacing, additional bracing in the rear section and long-life steel main rails is unaffected by point loading and irregular weights during the loading process.



#### The right equipment - guaranteed! The loading equipment.

Particulaly efficient for transporting paper: due to its numerous strapping points, the KRONE Multi Lock external frame offers unlimited load securing options.

In addition, four running rails (integrated in the floor) for pallet rollers and eight perforated rails in longitudinal direction provide optimum loading and securing possibilities.

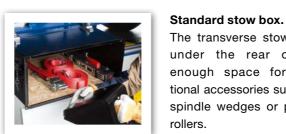
#### PAPER LINER. PRODUCT FEATURES.





Versatile roll stability.

Four rows of running rails for paper rollers with wedge-type perforated rails secure rolls in any variation.



The transverse stow box under the rear offers enough space for optional accessories such as spindle wedges or paper rollers.



Excellent paper roll securing.

Due to its numerous strapping points, the Multi Lock external frame offers universal securing possibilities, particularly when loading paper rolls.



#### Pallet rollers.

KRONE can provide original Joloda pallet rollers with a load capacity of 2.5 or 3.5 tons and a rising height of 13 or 20 mm. Upon request, the lining slats made of recycled plastic can be placed into the plank pockets of the superstructure to save space.





#### Robust chassis.

The extraordinary stability of the chassis with a fork lift axle load of seven tons shows itself at its best primarily in quick loading/unloading cycles.



#### Smooth running rails.

Steel running rails in combination with pallet rollers make it possible to shift the paper rolls without much effort. The 20 mm lifting height of the rollers offers sufficient safety when handling paper rolls and also permits the use of anti-slip mats.



#### Optional securing equipment.

In order to secure the paper rolls even more effectively, chocks, anti-slip mats and lashing straps are available for the Paper Liner.

## THE KRONE LIGHTWEIGHTS FOR INCREASED PROFITABILITY. THE KRONE ULTRA SERIES.



SAVING VEHICLE WEIGHT MEANS THAT YOU CAN GAIN MORE PAYLOAD – KRONE HAS FOLLOWED THIS MAXIM IN THE DEVELOPMENT OF THE ULTRA VERSION, WHICH IS OFFERED FOR THE COIL LINER, PAPER LINER, PROFI LINER, AND MEGA LINER SERIES. THROUGH THE USE OF NEW MATERIALS AND A VARIETY OF DESIGN INNOVATIONS, TRAILER TARE WEIGHT HAS BEEN SIGNIFICANTLY REDUCED.

#### Profi Liner Ultra.

5,630 kg - this is the tare weight of the Profi Liner Ultra made possible by a number of design innovations. From redesign of the chassis, to the use of light alloy, e.g. for the front bulkheads, rear walls and for weight optimisation of the trailer floor. The result: A significant increase in payload for your day-to-day transport, and up to 5,460 kg fork lift load bearing.

#### Paper Liner Ultra.

With the Paper Liner Ultra, KRONE offers a trailer that is ideally suited for the professional transport of paper rolls. The basis for this trailer is the modified KRONE chassis with short transverse beam spacing, equipped with running rails for pallet rollers where the rails are attached directly to the chassis. In addition, adjustable wedges can be placed at various intervals to further secure the rolls The tare weight of the Paper Liner Ultra is approx. 780 kg lighter than the standard version, at approx. 5,970 kg.



#### Mega Liner Ultra.

The new Mega Liner Ultra stands out as a real lightweight in the volume trailer sector with its tare weight of only 5,950 kg. The key factor in achieving its low weight is the completely redesigned chassis; thanks to the weight-optimised design of the main beams and cross members, it was also possible to reduce the tare weight without losing stability.

**The Ultra series** 

**Profi, Paper, Coil** 





#### Coil Liner Ultra.

The Coil Liner Ultra features 6,900 kg tare weight (only 5,850 kg in a special version). Through the use of new materials and a variety of design innovations, for the chassis and floor for example, the tare weight of the Coil Liner has again been considerably reduced while retaining full functionality of the semitrailer.

The coil well is equipped with post pockets and two coilsecuring supports as standard.

In addition to that, the sliding curtain coil trailer has the Multi-Lock external frame as standard (with approx. 130 strapping points per side rave), as well as additional heavy duty strapping rings near the external frame, so that the load can always be secured in the best manner possible.





#### **ULTRA SERIES**



Moreover, in the neck area, plug-in posts can be positioned across the trailer, thus providing a safe method for securing longer or over-sized cargo. The trailer floor has a fork lift load bearing weight (CSCstandard) of up to 5,460 kg. Both the front bulkhead and the rear doors are made of light alloy.



#### Key advantages at a glance

- ) Increased payload through lower tare weight
- Reduction in the number of journeys required
- Fuel savings and lower CO<sub>2</sub> emissions through reduced transport requirement
- Lower transport costs through reduced fuel consumption and higher payload

## MEETING YOUR REQUIREMENTS! FLATBED SEMITRAILERS. OPTIONAL EQUIPMENT.



Solid plastic-tool box. The large tool box is made of impact-proof material and is fixed to the frame by means of solid beams.



#### Robust pallet boxes.

Pallet boxes of different sizes can be placed in front of the axles. They also provide additional side impact protection.



## Steel tool box.

As an alternative to the PVC toolbox, KRONE also offers a version made from galvanized steel with a painted lid.



#### Extinguisher box. Storage case and fire extin-

guisher (6 kg) are mounted



Spacious storage box. We can provide you with an optional bigger storage box which is integrated into the spare wheel carrier.



to the brace winches for quick access.



#### Pallet box behind the axle assembly.

Practical, also for various load securing accessories: a second pallet box behind the axle assembly. Alternatively, this box is available with an integrated spare wheel carrier.



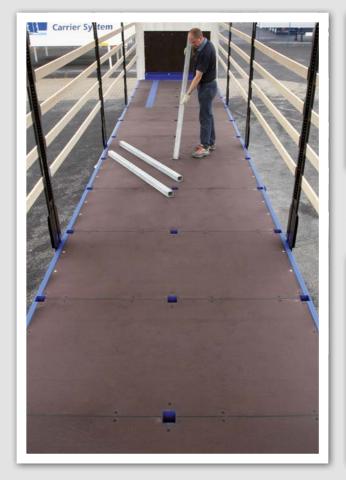
Food box. The insulated food box is practical and hygienic.



Storage compartment in the floor. The storage compartment in the floor offers additional stowage for load securing equipment, as well as protection against theft and loss.



Water tank. An optional 50 litre water tank ensures availability of fresh water.



#### Solid plug-in posts.

Galvanised plug-in posts (80 x 80 mm) for post sockets integrated in the floor are particularly suited for securing steel coils.



#### Practical

front wall stowage. A compartment integrated in the front wall serves as an alternative to the classic storage box, and is used to store paper wedges, strapping belts, etc.





#### Open post depot.

An open depot mounted laterally under the chassis receives the plug-in posts when they are not in use.



#### Extra-wide rear equipment.

The control unit is protected and easily accessible behind the axle assembly.



#### Post pockets.

10 rows of individually adaptable post pockets provide the flexibility to safely secure the load. From the fourth row, the pockets are also equipped with lashing points.





#### **Equipment for** ferry traffic.

The foldable underrun protection, the protected lighting, ship transport latches, or the document box for the storage of the shipping documents are especially beneficial in ferry traffic.





#### Hardwood floor.

Hardwood floor, laid between the main chassis rails, in the longitudinal direction, with bordering of Omega profiles, 40 mm thick.



#### Strong plug-in planks.

An additional attachment on the exterior frame prevents bending of the lower plug-in side planks and provides additional collision protection.



For heavy usage at loading platform.

Trailer Safety Floor - Safe and low-noise.

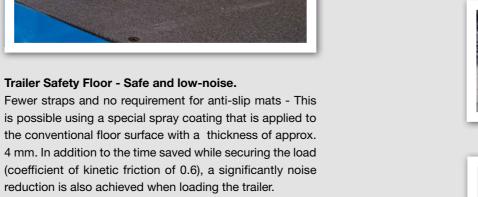
platform.

Floor reinforcement in rear of vehicle using chequered plates, and ideal reinforcement for heavy usage at loading

Safe stop. The welded-on pallet stop edge prevents sliding/shifting of the load.



Multi Screw. The screw-fastened Multi Screw pallet attachment elements can be quickly and securely attached to the side rave.





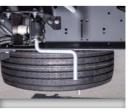
#### Lifting axle.

Lifting axles have automatically load-dependent reaction. In this way you can reduce your tyre wear and save fuel.



#### Practical

spare wheel carrier. The spare wheel is stored in the centre. The easily accessible screw connection also allows securing of a wheel rim.



#### Easily operated spare wheel solution.

Due to the low height of the Mega Liner, the spare wheel bracket is executed as a winch and is easily accessible.





#### Ice Protect for ice-free curtain roofs.

The Ice Protect system is a preventive protection for road traffic in winter. An air hose under the curtain roof lifts the roof by approx. 20 cm at the push of a button, so that

water and snow are dropped to the sides. Prior to setting off, the roof can be lowered to travel position.





#### Safety all-round.

A yellow beacon and pull-out warning sign warns other road users, for example, when transporting wide loads.



#### Hubodometer.

You can calculate the effective mileage of your vehicle using the axle cap odometer. This is independent of the truck.



#### Secure brakes. A brake monitor gives information about the status of the brake linings.





#### Safe docking.

Modern reversing aid such as, e.g. Soft Docking or Tailguard helps you to prevent damage during docking at the ramp.



#### Quick coupling.

The Duomatic quick coupler allows fast and uncomplicated air line coupling.

## FLATBED SEMITRAILERS. OPTIONAL EQUIPMENT.



#### Aluminium reversing laths.

For securing beverage pallets and crates, the laths can be inserted into the plank sockets vertically or horizontally.



Solid beverage loading. Aluminium beams with height-adjustable hooking equipment engage in the crates and thus secure pallets in doubledeck loading.







**Universal load securing.** The AJ system offers manifold securing possibilities. Steel plug-in laths give a

• Barrier beams for rear

• Plank sockets in variable

positions for the reception

of plug-in laths in trans-

• Straps for securing indi-

vidual cargo items in lon-

variety of options:

load securing.

verse direction.

gitudinal direction.

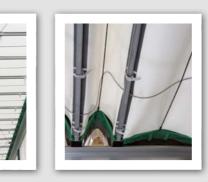
#### Rear load securing.

Steel plug-in laths with barrier beams stabilise the load in practical use.



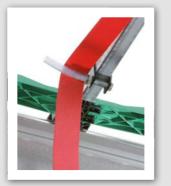
#### Load securing for Octabins.

Steel plug-in planks and locking bars are also used for securing Octabins. The locking bars ensure a tight fit on either side.



#### **Diagonal trussing.**

The diagonal trussing in the roof for load securing according to EN12642 Code XL and for transporting beverages. Expander rubber straps reduce steel cable dragging when opening the roof.



Simple and yet effective. A strap retainer, bolted to the transverse support of the roof simplifies securing cargo. After cargo loading, the flexible tube eases at a slight pull – the driver is spared the labour of throwing the strap over.



#### Steel plug-in planks.

Steel plug-in planks are a strong alternative to the usual side planks made of wood or aluminium.



Practical plank depot. The plank depot below the chassis receives wooden or aluminium plug-in laths.



#### Alternative equipment.

Width-adjustable clamping beams are available as an alternative.



#### Barrels.

Barrels can be secured at any position quickly and easily using the Multi Lock side rave.



#### Alternative curtain tensioners for sliding curtains.

Latch-type tension lock and Tilt-resistant tension lock for railway transport with strap brake.





## Tarp/curtain buckles for board wall vehicles.

Curtain with trapeziums for expander rubber straps (zigzag); tarp retainer cramps in closed R execution.

Retractable curtain with expander rubber strap (zigzag); tarp retainer cramps in closed R execution.



#### Protective curtain.

A special anti-theft curtain, also for load securing. Inside welded-on steel cables protect it against thefts. Other designs are available.



#### Load securing curtain.

Integral, hollow aluminium curtain profiles negate the need for additional plug-in planks and save time when loading and unloading.

## **FLATBED SEMITRAILERS.** OPTIONAL EQUIPMENT.



**Tough enough.** Buttrolls as an alternative collision protection. The hard rubber rollers easily take part in ramp height compensation.



Alternative rear buffer. Contoured, raised steel frame corners ensure additional protection when docking.



#### Optional tail.

Your trailer can also be fitted optionally with a robust steel impact protection as well as two massive impact buffers.



#### Board wall equipment.

Optionally, the sliding curtain superstructure is also available with additional side board walls.



Effective locking rod protection. A formed steel profile on the rear frame protects the locking rod from damage.



#### Drop-sides with hooking lip.

As an alternative to the conventional method, an aluminium profile can also be integrated in the curtain pocket where standard curtain straps can be attached.



#### Extra-wide rear equipment.

The hydraulic rear width extension for extra-wide cargo. When extended, the loading-through width is increased by 1,000 mm (500 mm per side).



#### Tail lifts.

Tail lifts of different manufacturers, in upright or foldable design, are available. Naturally, the platform can also be designed for the later installation of a loading platform.



#### Rear spray suppression.

An optional spray suppressor minimises rear water spray for following traffic.



Holder for a transportable forklift. What applies to tail lifts applies to the holder for the transportable forklift as well. Mounting fixture for all conventional transportable forklifts is available.

## *WKRONE* EASY RIDER



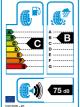


Plug-in posts are well protected against theft and soiling in the closed, transverse stow box under the chassis. For travelling the rear must be returned to its original condition.

A champion: KRONE Easy Rider, the tyre for your trailer. With all the features of a strong new contender: high running performance, high efficiency, reliability, safety and TÜV - tested quality. In short, the first KRONE in trailer tyres.

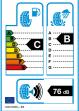
#### The tyre classification Easy Rider Eas

385/65 R22.5





Easy Rider 435/50 R19.5



## ECONOMIC AND REALLY VERSATILE. THE REFRIGERATED SEMITRAILERS.

DISCOVER THE EFFICIENCY OF ESTABLISHED SOLUTIONS. KRONE REFRIGERATED SEMI-TRAILERS ARE ROBUST AND ECONOMIC DOWN TO THE SMALLEST DETAIL. FOR WHICHEVER APPLICATION: OUR COOL LINERS ARE THE RIGHT ANSWER FOR EVERY TRANSPORT TASK.







## A FULL LOAD OF COOLING EFFICIENCY. THE COOL LINER.

THE KRONE COOL LINER DUOPLEX STEEL IS EFFECTIVE OWING TO ITS NUMER-OUS FEATURES AND OUTSTANDING FLEXIBILITY - THUS MAKING IT SUITABLE FOR TRANSPORTING HIGHLY SENSITIVE PHARMACEUTICALS, DELICATE FLOW-ERS AND CHILLED OR FROZEN FOODS. DUAL AND MULTI-TEMPERATURE LOADS CAN BE CARRIED USING THE KRONE ISOWALL MOVABLE BULKHEAD.

#### Robust, practical and efficient.

The KRONE Cool Liner is tailored to the exacting conditions of temperature-controlled transport. The chassis, body and general equipment are strong and purpose-built. From flexible air ducts above the water proof floor through to the stainless steel rear locks, the smallest details satisfy the highest demands.

#### Cool calculation for greater efficiency.

Minimum Life Cycle Costs - another key attribute of the Cool



Liner. Intelligent KRONE solutions ensure for example, that, energy is used sparingly, even with the highest refrigeration demands. Moreover, KRONE only uses components from renowned manufacturers.

#### Food transport to suit your taste

Our refrigerated bodies provide the right solution for all types of transport: be it vegetables, meat or deep-frozen goods, the Cool Liner is available with a range of options, all in accordance with HACCP. Particularly helpful: KRONE Telematics, the manufacturer-independent telematics system, which allows you to monitor the position, condition and temperature of your cargo at any time, online.

#### Maintaining load integrity is vital.

Therefore, the Cool Liner is equipped with numerous advanced features to control and monitor around the clock. From telematics, through to tyre pressure monitoring and ramp approach assist, plus a comprehensive security system such as Door Protect, your goods are afforded the highest protection.





## COOL LINER. CHASSIS.

#### Pallet depot.

The new pallet box can house 36 European standard pallets and is easy to operate with two hand levers. The pallet box cover is just folded up and it locks automatically.





**Good coupling protection.** Diagonal trussing of the rear guides ensures efficient protection of the trailer against compressive strains.

#### Protected fuel tank.

The plastic fuel tank has been installed in a protected position behind the landing gear. The open construction provides for easy filling and checking of the fuel level.



#### Offset chassis.

The chassis is offset at the pallet box section. At coupling height of 1150 mm, this gives ground clearance of approx. 350 mm under the pallet box.



Impact-optimised substructure.

Under-run protection and lighting rack can be replaced individually. During the docking manoeuvre, the tail is protected by one horizontal delta-shaped fender and two impact buffers, right and left.



**Continuous chassis.** The Cool Liner is equipped with a continuous chassis. Tensile forces are transferred to the chassis, which protects the coffer superstructure during vehicle coupling and uncoupling. The forces involved when docking to the ramp are also absorbed by the chassis.

## COOL LINER. SUPERSTRUCTURE.



#### Flexible air channel.

The flexible, ceiling-mounted air ducts evenly distribute cold air in the trailer and are also suitable for double deck loading.



**LED internal lights.** 4 LED lights under the roof provide internal lighting.



#### Functional rope-type door arrests.

Rear doors equipped with robust seal profiles. A solid rope-type door arrest holds the door securely in position to suit tail lifts.



Water-tight kick strips. The aluminium kick strip is bonded to the side walls and welded water-tight to the one-piece floor plate.





**Protected position lamps.** Marker lights and hinges are fitted in protected positions in the rear frame. Another plus: touch-free door contact switch for internal lighting.



#### Smooth facings.

The smooth outer skin without additional connecting elements is ideally suited for fitting decals, easy to clean, simple and quick to repair.



#### Optimum air guidance.

Robust aluminium distance profiles at the front wall. Optimum front wall protection through deep profile cross section and optimum air guidance through large profile cross section.





#### Tailor-made refrigerated trailers.

KRONE cooling trailers are equipped according to the customer's requirements: with kick strips, doubledeck, HACCP-compatible strapping rails, and a lot of other optional equipment for transport efficiency.



#### Functional rear doors.

Rear doors equipped with robust seal profiles. A solid ropetype door arrest holds the door securely in position to suit tail lifts. Four door latches are also available as an option.



#### Screwed rebound plate.

The screwed rebound plate for maintenance and cleaning, in accordance with HACCP.

The telematics control. perature and the technical status of your trailer - from You are not always aware of your trailer's exact locawherever you are. Designed to reflect the needs of our tion. To help you keep full control, Krone has developed customers,KRONE Telematics not only saves you time KRONE Telematics. KRONE Telematics ensures that you and money but improves the flow of information within are informed 24/7/365 about the status of your trailer and your company while giving you peace of mind that your its load. You have constant access to the location, temvaluable goods are under control.





#### Good air guidance.

If the load compartment is full, everything depends on good air guidance: optionally, venting ducts are integrated into the rear doors for optimum air circulation.



#### Cooling zone arrangement.

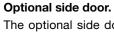
The new partition wall, which can be positioned anywhere in the length of the trailer to create different temperature zones in the Cool Liner, is more functional, excellently insulated and ATP-certified.



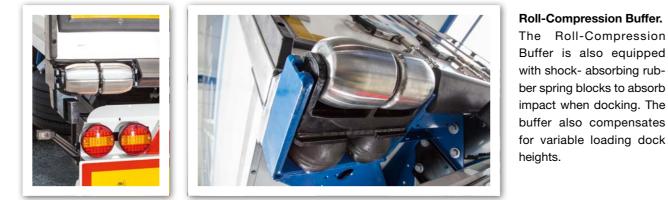


#### Compression buffer.

Tough to break: that is the compression buffer. Extremely robust steel impact protection at the tail end with impactabsorbing rubber blocks for damping docking forces.



The optional side door is the ideal solution when partial shipments must be loaded or unloaded in one temperature zone.





# Additional docking protection.

Two solid rubber rear buffers transfer docking impact to the chassis main beams.





#### Hygienic drain hole.

A drain hole is integrated into the floor to make interior cleaning easier.



Ferry rings.

Stable anchorage tab in screwed design ensure a secured position of Cool Liner during ferry transport.





Insulated roller shutter door. An insulated rolling shutter door saves you time

ramp easier.

and makes handling on the

## Fridge unit protection bars.

Heavy duty galvanised steel tubes are used to protect the refrigeration system.



Load securing. Barrier beams for rear load securing.



Split strapping rails.

In practical use, the advantages of the split strapping rails in combination with doubledeck loading can be clearly seen.





#### Practical guide rails.

Double-deck guide rails installed flush in the wall in accordance with HACCP. Additional top fixing points for ideal cooling air flow and bottom marks for easier height adjustment.



#### Equipment acc. to HACCP.

Cooler tailored to customer dimensions: with recessed, HACCP-certified lashing, double-deck rails and additional kick strip.



# Optional venting shutters.

Optional equipment: ventilation flaps in the front and rear walls.

#### COOL LINER DUOPLEX. OPTIONAL EQUIPMENT.



Strip curtain. The insulation strip curtain is in three parts.



#### Flexible load securing.

Vario Lock load securing system with perforated rails integrated in the floor and under the roof. Optimum equipment for securing flower containers.







#### Meat-Hang-execution.

Various models for suspension of meat are available that comply with country-specific requirements. Available are meat suspension rails with 60 mm or 45 mm diameter. Hook catch and Hook separation guard as standard equipment. On request, with hook parking rail or rack.



Solid evaporator guard. Added protection: the evaporator guard is formed from aluminium profiles.





are available to suit your preference.



#### **KRONE** temperature recorder TR.

Certified temperature sensors from KRONE make this possible: KRONE's telematic temperature recorKRONE temperature recorder TR1 via telematics

der TR1, obviates the use of conventional temperature recorders which normally would be sited on the front wall. Not only do you make savings on the system, but also through not having to supply and use the requisite apparatus (printer, printer paper, etc.). All temperature verification can be sent directly from the KRONE telematics portal as a PDF by mail or fax, even before the load arrives at the customer. Moreover, the data can also be transferred directly from the telematics unit to the PC via an interface and is also available in digital format. This also saves unnecessary waiting times for the driver.

The KRONE telematic temperature recorder TR saves time and money and protects the environment.



#### Refrigeration systems and telematic temperature recorders

Refrigeration systems and telematic temperature recorders from all leading manufacturers

### COOL LINER HUCKEPACK.

### COOL LINER DUOPLEX VIP



#### Simple railway transport.

Cool Liner Duoplex Steel are also be supplied with crane pockets and suitable equipment for combined traffic.





Retractable spray suppression. The spray suppressors can be stowed during rail transport.





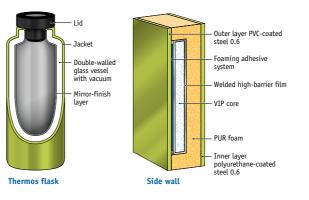
#### Raising the underrun protection. Depending on the trac-

tors in use, the underrun bumper and the side guards can be folded away and locked easily.

Robust equipment. High strength loading points ensure secure and safe handling for cranes and fork-lift trucks.



THE INSULATION PERFORMANCE OF TWO CENTIMETRE VIP-HIGHTECH PANEL CORRE-SPONDS TO 20 CENTIMETRE CONVENTIONAL INSULATION TECHNOLOGY: THE NEW COOL LINER DUOPLEX STEEL VIP TRAILER REQUIRES UP TO 25% LESS ENERGY AND THUS SIGNIFI-CANTLY REDUCES CO<sub>2</sub> EMISSIONS FROM THE REFRIGERATION UNIT.



Vacuum panels embody the principle of the thermos flask in a panel form. Vacuum panels are highly insulating panels that offer extremely high insulation properties on a hitherto unrivalled level with minimum structural thickness.

The core is coated with a high-barrier plastic film in a special procedure, then evacuated (i.e. the air is pumped out) and sealed. VIPs are particularly effective where excellent thermal insulation is required alble. VIPs facilitate highly insulating, slender structures for example as transport containers for temperature-controlled transportation. As an approximate rule of thumb, the insulation provided by one VIP panel is about ten times superior to conventional fibre or foam insulation. A VIP that is 2 cm thick offers about the same thermal insulation as conventional materials in a thickness of 20 cm.

though little space is availa-



The acronym VIP is used here to refer to vacuum insulated panels. In the Duoplex Steel superstructure, these elements are integrated in the side wall and thus ensure a significantly improved insulation value of the entire box - a value that cannot be achieved with conventional insulating foam technology in this vehicle category. This promises energy savings of up to 25%. After all, reduced loss of cold air results in

reduced operation of the refrigerating machines. The overall decrease in fuel input results in less carbon emissions, with further reductions also in the maintenance costs of the cooling system. The innovative structure of the new KRONE Cool Liner Duoplex VIP not only makes a considerable contribution to cutting the costs for the operator, but also minimising the impact on the environment.

#### THE HIGHLIGHTS:

- Use of the proven DUOPLEX STEEL outer skin
- Walls with integrated vacuum panels
- A vacuum is the best way of insulation
- Reducing the k-coefficient of the bodywork
- Energy savings up to 25%
- (Not reachable with conventional foam systems)
- CO2 reduction through reduced fuel consumption of the cooling unit
- Noise reduction through reduced use of the cooling unit
- Cost optimizing of the cooling unit through reduced fuel use and reduced maintenance costs

## COOL LINER PHARMA.



THE GERMAN MEDICINAL PRODUCTS ACT HAS SPECIFIC REQUIREMENTS CON-CERNING STORAGE AND TRANSPORT OF PHARMACEUTICAL PRODUCTS. THE FOLLOWING PASSAGE CAN BE FOUND IN ARTICLE 7 OF THE REGULATION: "RAW MATERIALS, COMPOUNDS AND END PRODUCTS AS WELL AS SAMPLES MUST BE STORED IN SUCH A WAY THAT QUALITY IS NOT ADVERSELY AFFECTED AND THAT MIX-UPS ARE AVOIDED. CRITICAL PARAMETERS CONCERNING THE STORAGE AND TRANSPOR-TATION MUST BE CHECKED AND RECORDED SO THAT COMPLIANCE WITH THE REQUIREMENTS CAN BE CONFIRMED. [...] THE STORAGE CONTAINERS AND THE INTERNAL TRANSPORT CON-TAINERS MUST BE DESIGNED SO THAT THE QUALITY OF THEIR CONTENTS IS NOT AFFECTED."

The Cool Liner Pharma provides an exact model of how these legal requirements can be met. This is verified by Pharmaserv GmbH & Co. KG as well as the European Institute for Pharma Logistics GmbH. Pharmaserv certifies the Krone trailer at the Lübtheen production plant. In functional tests carried out over several days, the Cool Liner equipped with Krone telematics is tested under the toughest conditions. A total of 24 data loggers are placed in predefined positions in the trailer body to provide continuous monitoring of the data and internal temperature distribution. In addition, continuous external monitoring and control is carried out using the Krone telematics portal. The result: The values required by Pharmaserv, such as high thermal efficiency and even cold air circulation, along with stringent hygienic requirements are easily met using a combination of high grade components and expert workmanship.

In addition, Krone has also received the EIPL certificate for the Cool Liner. This certificate is issued by the European Institute for Pharma Logistics GmbH which specialises in knowledge transfer and services at the interface between the pharmaceutical and the logistics industries.

Krone offers the pharmaceuticals certified Cool Liner with a variety of equipment options. The trailer body is available with side walls of 60 mm or 45 mm thickness. The fridge units can be installed for single or multi-temperature operation . The Carrier Vector 1950 T as well as Thermon King SLXe 400 and SLXe Spectrum are available ( each with optional remote evaporators).

#### PHARMA CERTIFICATE

The Pharma certificate confirms that the Cool Liner uses the ideal equipment and technology designed for the refrigeration industry, including insulation properties that enable perishable goods to be transported within strict HCCP regulations. In order to meet the stringent demands of the pharmaceutical industry, the Cool Liner "Pharma" is also equipped with an integrated telematics system that meets the requirements of the EU GDP. The trailer covers the entire temperature range from -25° to +30°C and is therefore also suitable for transporting products outside the pharmaceutical sector.



#### **Door Protect High Security.**

Best possible anti-theft protection with the KRONE Door Protect High Security; the door is automatically locked (8 locking units) and can only be opened once the scheduler has released the door via the telematics and the driver has entered the respective security code. As well as the rear door, the Door Protect High Security also provides electronic, internal roof and side wall monitoring. Furthermore, an optional alarm can be fitted to alert the driver if the rear doors are opened.



**Temperature sensor.** Two temperature sensors are fitted in each refrigerating chamber.













### The most important advantages of the KRONE Pharma qualification:

- Expense for IQ (installation qualification) and OQ (operational qualification) is not required (Alt-hough in practice, it is required for all vehicles)
- Safety and the pharmaceutical suitability of the trailer
- Savings in time and costs
- Where required, assistance with PQ (service qualification)

## MADE FOR THE CITY. THE COOL LINER CITY.



INNER CITY DELIVERIES DEMAND CARGO TRANSPORTATION: WHAT IS NEEDED HERE IS A FLEXIBLE, SOLID AND, ABOVE ALL, VERSATILE TRAILER THAT CAN BE WELL HANDLED EVEN IF THERE IS NOT MUCH SPACE.

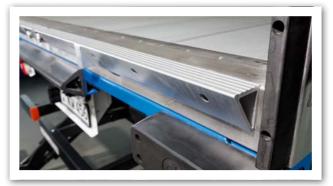
The Cool Liner City is tailored to these requirements: a robust running gear with solid end beam for frequent docking at ramps, a low-maintenance, quick-reaction one-bar forced steering and a chassis with long-term value preservation due to cataphoretic painting and powder coating. The entire City Liner is made with proven Krone quality components: Depending on its application, you are provided with the City Chassis and all body options from refrigeration unit to dry freight and sliding curtain to the classic board wall trailer. It is compatible with a standard tractor unit and is more versatile than any solo truck with the same loading length.



#### Extreme mobility.

The forced steering is a proven one-bar system, integrated in the running gear and low-maintenance. The steering angle of 25 degrees allows manoeuvring in very restricted space.





#### Sophisticated tail lift equipment.

An aluminium brink wedge comes as standard with a fixed tail lift behind the rear doors. The brink wedge serves to close the gap between loading floor and platform. The special low-noise flooring of aluminium meets statutory requirements of noise reduction. Even coated tail lifts and low-noise cooling units are part of the delivery programme.



#### Lifting arm equipment.

With loading board wall equipment, both the chassis and the lighting rack are provided with a cutout adapted to the lifting arms of the tail lift.



#### THE PIEK ALTERNATIVE:

#### The future of inner-city distribution.

In the Netherlands, but also in England, Italy and Germany statutory regulations about noise emissions during early morning and late night delivery are applicable. To fulfil statutory requirements, efforts have been underway since 1999 to develop noise-reducing lorries. The PIEK programme (PIEK = peak, to be understood as the permissible peak noise load) has led to development and launch of noise-reducing products.



#### **PIEK** equipment.



### **ROBUST AND SOLID, DRY LINER.** THE DRY FREIGHT BOX BODY FROM KRONE.

DISCOVER THE NUMEROUS DRY LINER APPLICATIONS WHICH ALONG WITH THE TRAILER'S DIVERSE EQUIPMENT CONTRIBUTE TO AN IMPRESSIVE PRICE-PERFORMANCE RATIO. TECH-NICALLY FINESSED DOWN TO THE SMALLEST DETAIL - THERE IS NOTHING LEFT TO BE DESIRED.







### TO BRING YOU SAFELY THROUGH THE TRAFFIC FLOW. THE DRY LINER.



with doubledeck equipment.







### DRY LINER. PRODUCT FEATURES.





#### Variable interior equipment.

The steel coffer model of the Dry Liner is equipped with keyhole plates as standard. The plywood series features attached strapping rails.



Robust and easy-care. The front wall of the Dry Liner is lined with screen printing plates at the inside over its entire height.



**Double-deck equipment.** Perfect integration of guide rails to double-deck stowing. A hook for the loader makes moving the loading beam a child's play.



Protected side walls. Raised side doublewall kick strips protect the superstructure walls against damage through fork lift trucks or through the cargo.



**Different inner linings.** Inner linings of plywood up to felt coating are available.



**Versatile load securing.** Besides key hole profiles there are also lashing rings for load securing integrated in the side kick strips, available.



**Translucent plastic roof.** Better vision during loading and unloading work thanks to the translucent plastic roof. Segments of this design can also be optionally installed.



#### Compression buffer.

Tough to break: that is the compression buffer. Extremely robust impact protection of steel at the tail end with impact-absorbing rubber blocks for damping docking forces. (Optional)











#### Optional rolling door.

Optionally, a space-saving rolling door is available instead of the standard container doors.



#### Optional tail.

The Dry Liner also comes with an optional reinforced rear bumper guard and double, rubber buffers.



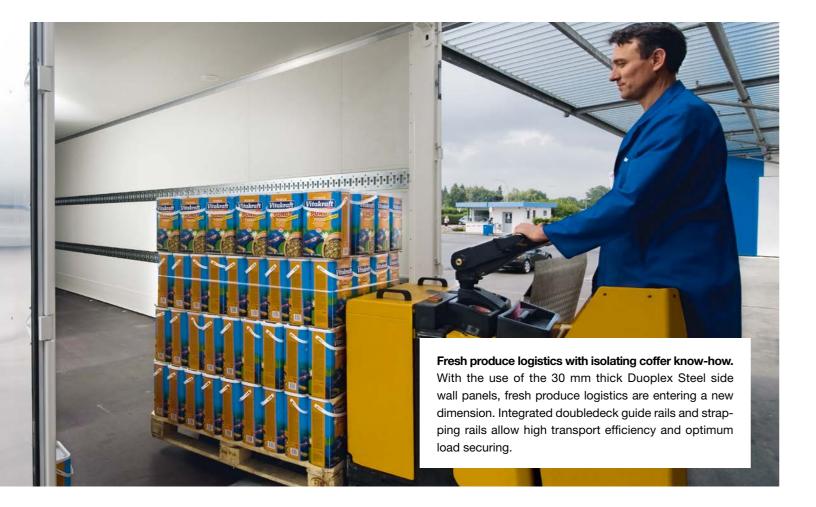
#### Multi Switch.

Multi Switch is a system of vertical and horizontal guide rails which, using a locking bar, can be easily used to secure the load in any position at the front or rear.

### Ideal for apparel transport.

Keyhole plates are predestined for apparel transport. Besides clothes rails, they can also take up locking rods, belts, etc. Unneeded garment rails can be positioned at any place.

### DRY LINER DUOPLEX STEEL. PRODUCT FEATURES.



#### Fresh solution on the transport market.

Reason: innovative Dry Liner Duoplex Steel is based on insulated box knowledge that led to the development of the new Cool Liner Duoplex Steel. Both designs can be manufactured at Luebtheen.

The result is a versatile box body for fresh and ambient goods which impresses, both internally and externally, with its effective insulation, flexibility and strength.





#### Simple doubledeck height adjustment.

The doubledeck loading beams can be easily handled by means of the control bar. Markings at the guide rails facilitate height adjustment.

#### Innovative doubledeck guide rails.

State-of-the-art manufacturing technology: doubledeck guide rails with split and continuous strapping rails, integrated flush in the side walls.



#### Optimum tightness.

The steel container rear doors with foam block lining provides optimum closing with top tightness. Internal espagnolette (turn-bar) latches ensure a smooth outer surface.



#### Perfected front wall.

The front wall is aerodynamically shaped. The coupling supports provide light and air connections on two levels.

#### THE DRY LINER FURNITURE.

Designed for the very purpose, is the Dry Liner Furniture. Its command steering makes it more manoeuvrable in inner-city traffic than many solo HGV's. Bespoke equipment such as felt panelling and smooth floor surfaces ensure







#### Solid load compartment.

The 300 mm high socket kick strip and the 30 mm thick perforated floor plates provide stability and high load capacity.

the safe transportation of high quality furniture. Integral strapping rails, lashing rings, etc. allow secure and easy load securing in any position.

WORLD CLASS WHERE BOXES ARE CONCERNED. THE KRONE CONTAINER CHASSIS.

THEY TAKE ON ANYTHING TO REACH YOUR TARGETS. KRONE CONTAINER CHASSIS ARE EXTRAORDINARILY ROBUST, SOPHISTICATED AND FLEXIBLE TO ENSURE THAT YOU MANAGE THE REQUIREMENTS OF EVERYDAY TRANSPORTATION WORK EXCELLENTLY.







### YOU CAN LOAD ANYTHING. THE BOX LINER.

MIN HI

A TRUCK MUST WITHSTAND A GOOD DEAL WHEN CONTAINERS ARE CON-CERNED. THEREFORE, THE BOX LINER IS DESIGNED NOT TO BACK DOWN WHEN PUT UNDER HEAVY LOADS. IT IS LIGHT, YET ROBUST AND PERFECTLY ADAPTED TO THE TOUGH EVERYDAY CONTAINER ROUTINE. EQUIPPED WITH KRONE EQUIP-MENT, SUCH AS THE PNEUMATIC REAR EXTENSION AND THE PROVEN STAND-ARD COMPONENTS, THE BOX LINER HAS ALL THE RIGHT FEATURES TO ENSURE THAT YOU EXCEL WHERE EFFICIENCY IS CONCERNED.

N D D STANBU

Always the right answer to any container question.

Transporting containers is a tough business. The frequent transfers must be quick, which means that the trailer has to withstand a great deal. The Box Liner is the right choice for these tasks. Lighter, yet more robust than the standard chassis, it is perfectly equipped: from the durable KTL plus powder painting through to the pneumatic rear extension at the push of a button – everything to help you reach your targets easily!

#### Versatile and flexible: The Box Liner range.

Flatneck, gooseneck, or a short model with two or three axles for 20 ft containers: The Box Liner is also equipped

with the universal chassis. Also equipped with the universal chassis for all container sizes from 20 to 45 ft, with short, long, or without tunnel. There are eight different combinations, from the two-axle model through to the 45-ft chassis; giving you the right solution to any requirement. The Box Liner is not only suitable for transport containers, but also for swap flatbeds with a length of 13.6 metres. All Box Liner models with three axles are equipped with an expanded wheelbase (1,410/1,310 mm). And, of course, a lot of sophisticated details for practical use, as e.g. the height-adjustable locks, four stop wedges as standard equipment, strong rubber buffers, and many more features to facilitate everyday transport business.









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#### BOX LINER. PRODUCT FEATURES.



#### Pneumatic extensions.

The Box Liner eLTU5 Plus transports all container sizes from 20 to 45 ft. It is equipped with a pneumatic rear extension as well as with a manual front extension.



Collision protection. The side collision protection is located behind the axle unit on the rigid Box Liner configured for transporting 40 ft containers.





#### Easily accessible control unit.

The control unit for the pneumatic extension is located near the rear, but securely between the first and second axles.

### Practical lock.

The Box Liner eLU is equipped with a front extension lock for simple access to the connection points when transporting 45 ft containers.





#### Screwed-on side collision protection.

The side collision protection is firmly screwed to the frame and powder-coated in white for safety reasons. Foldable execution available for use with accessories.

#### Two-axle Box Liner.

The two-axle Box Liner is an expert at transporting 20 ft containers, and is available with an axle load of 18 or 20 tons.



Three-axle Box Liner. The specialist for heavy, 20 foot containers with 24 or 27 tonne axle load.



#### Type eLTU4.

The Box Liner eLTU4 is a gooseneck chassis for transporting containers from 20 to 40 ft. The rear is pneumatically extendable.





#### Sophisticated rear extension.

The rear is pneumatically extended by pressing a button. Pictograms indicate the required locking position for the operator. Spring washers avoid canting of the extendable rear, which smoothly slides over a cylinder when extented or retracted.



#### Simple front extension handling.

Via a central locking system, the front extension of the eLTU5 Plus can be simply operated.



#### Various size adjustments.

The front container lock of the eLTU 5 Plus can be adjusted to different container sizes.

### **BOX LINER.** PRODUCT FEATURES.

### THE KING OF FLEXIBILITY. THE BOX LINER SDC 27 ELTU6.



Practical 45 ft equipment.

When transporting 45 ft containers, the underrun protection is simply folded out and ensures the right overhang.



### Quality locks. The container lo

The container locks are made by well-known manufacturers. This guarantees simple handling, quick replacement, and low life cycle costs.



#### QuickLock – fast and easy

QuickLock is a locking system for the safe transport of containers. The locks close automatically and are mounted in place of the conventional container locks on the chassis. Due to the weight of the container the QuickLock mechanism will automatically lock and secure the container perfectly on the chassis.

















### GenSet.

The transport of refrigerated containers is facilitated by a GenSet unit (Optional Carrier or Thermoking). The GenSet unit is equipped with its own fuel tank to ensure that the cold chain is maintained during road transport.



#### Container transport without tunnel.

Height-adjustable twist locks and foldable spacer blocks allow the transport of container without a tunnel. The transport blocks can be moved into transport position by hand.



#### The new comfort.

The container size of the transported container will be selected via a control panel. The Box Liner eLTU6 is suitable for the transport of 20 to 45-ft. containers.

#### Short or long - you decide.

Robust, innovative, flexible and unique simple: With the Box Liner SDC 27 eLTU6 20-ft. containers can be comfortably transported in the middle and flush loaded and unloaded at the rear. Thereby, the chassis slides in and out powered by the tractor unit.

#### **HIGHLIGHTS:**

- Rear flush loading and unloading of 20-ft containers
- Doptimum, centre loading 20 foot containers.
- Optimal load distribution leads to excellent handling characteristics.
- Compliance with the legal regulations in cross-border traffic.
- Easy handling while moving the chassis.
- Suitable for all standard container sizes due to front and rear extensions.
- Reduced tyre wear.

### **EFFICIENCY IS A MATTER OF PRINCIPLE.** THE CARRIER SYSTEM.

KRONE IS THE LEADING SUPPLIER OF HIGHLY EFFICIENT AND ROBUST SWAP SYSTEMS. THE REASON FOR THIS: THE BOX CARRIER CHASSIS, THE STEEL AND CURTAIN BOXES. ALL HAVE EXTREMELY RESISTANT, FLEXIBLE, AND FUNCTIONAL EQUIPMENT TO ENSURE SMOOTH OPERATION EVEN WITH HIGH SWAP CYCLES.





### **BOX CARRIER** STEEL BOXES CURTAIN BOXES

### FOR BOXES THAT ARE PERFECT ON THE MOVE. THE CARRIER SYSTEM.









COMPETENT ANSWERS TO ALL QUESTIONS CONCERNING EFFICIENT SWAP CYCLES. TOGETHER WITH OUR EXPERT PARTNER BRÜGGEN, WE PRODUCE SWAP SYSTEMS WHICH PERFECTLY MEET THE REQUIREMENTS OF EVERY-DAY TRANSPORT BUSINESS.

#### A unique swap system.

With our modular system for transport, you will find tailormade solutions for any requirement. Whether simplified platform procedures, manoeuvring safety or series compon-



#### **BOX CARRIER**



ents equipment are concerned: also chassis, steel boxes, and curtain boxes in the Carrier System are convincing not least owing to KRONE's established quality credentials.

### THE CHASSIS THAT REALLY STANDS OUT. THE BOX CARRIER.



THE SOLID BASIS OF THE CARRIER MODULAR SYSTEM. THE KRONE CHASSIS ARE EXCEP-TIONALLY SOLID AND ARE THEREFORE SPECIALLY DESIGNED FOR THE HARD DAY-TO-DAY OPERATION WITH HIGH SWAP CYCLES. THEY DO NOT ONLY CONVINCE CUSTOMERS BY THEIR SIMPLE AND VERY SOLID DESIGN, BUT ALSO OFFER NUMEROUS EQUIPMENT FEA-TURES FOR THE STRAIGHT FORWARD HANDLING OF ANY LOAD.

#### The Box Carrier that willingly takes on everything.

There are many good reasons for the quality leadership of the KRONE swap systems. One important reason is that they feature the same sophisticated basic equipment as all KRONE trailers. The chassis are especially torsion resistant and sturdy. And all other equipment details, too, meet the high standards which characterizes the modern KRONE trailer build: cathodic dip painting plus powder coating in your company colour for long term corrosion protection, chassis, braces, light and air systems completely designed and produced by well known, high volume manufacturers. And the entire vehicle comes as a modular system with numerous possible variations.

Some of the versatile KRONE Box Carriers.



The Profi Box Carrier B9 is designed for a parking level of 1,220 and 1,320 mm, which is standard for swap body transport.



The Profi Box Carrier B10 with centre axles carries swap container sizes C782 - with an optional pallet stop - and sizes C715 and C745. It is designed with a ground clearance of 1,070 mm to 1,320 mm.



The Mega Box Carrier in central-axle design is built for<br/>transporting high-volume swap bodies. It is designed<br/>with a ground clearance of of 1,020 to 1,320 mm.The Multi Box Carrier is fitted with flexible twist locks.<br/>It is designed with a ground clearance of 970 to 1320<br/>mm (alternatively 920 – 1270 mm).

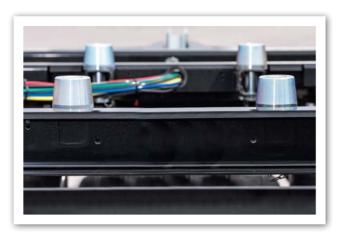
#### BOX CARRIER



The Profi Box Carrier B7 is built for transporting highvolume swap bodies. It is designed with a ground clearance of of 1,020 to 1,320 mm.



### **BOX CARRIER.** PRODUCT FEATURES.



#### Centring rollers made of steel. Ball bearing centring rollers made of steel simplify container positioning.



#### Functional guide tunnel.

The slanted front of the guide tunnel facilitates the drive in of the longitudinal centring rollers and reduces damage during container movement.



#### Orderly lines. The blind storing couplings for all supply conduits ensure good order and avoid damage during shunting.

Adjustable centring rollers

also allow the transport of

Adjustable centring rollers.

ISO containers.



#### Bolted drawbar.

The tow bar and coupling eye is bolted to the chassis which, in the event of damage, reduces replacement cost.



#### Sophisticated swap solution. Slanted rear ends on the longitudinal beams allow easy mounting on uneven ground.



**Telescopic drawbar.** Telescopic drawbar for adjustable towing length (optional).



Well-known components. The twist locks, too, are produced by well known, high volume manufacturers.



#### Low-maintenance equipment.

Low-maintenance towing eye and draw bar with low noise bushings and height-adjusting device in accordance with UVV. (German accident prevention regulations).



#### Lateral control levers.

Control levers located on one side for safe operation during swap body movement.



Solid stops. Folding solid stops allow accurate swap operations.



#### BOX CARRIER



#### Rear landing leg.

Additional landing legs at the rear with bolt locking serve as supports for the vehicle in case of loading/ unloading from the rear. Thus the trailer connection is prevented from damage.



#### Spare wheel holder.

Swap trailers for high-volume transport are equipped with a winch-type spare wheel holder.



#### Equipment of central axle trailers.

The central axle trailer is well suited for high-volume and standard swap bodies with height-adjustable twist locks and fold-away spacers, both equipped with turning mechanism.

### **INDESTRUCTIBLE AND ECONOMIC.** THE STEEL SWAP BOXES.



STRONG WHERE ECONOMIC TRANSPORT IS CONCERNED. KRONE STEEL BOXES REDUCE YOUR LIFE CYCLE COSTS. WHERE STURDINESS AND ECONOMY ARE CONCERNED, KRONE ONCE AGAIN HAS THE EXPERIENCE. FOR YEARS FOR YEARS, WE HAVE BEEN BUILDING SWAP BODIES AND STEEL BOXES WITH EXEMPLARY QUALITY REGARDING CORROSION PROTECTION AND PAINT FINISH, WHICH PROVIDE FIRST-CLASS VALUE RETENTION.

In addition, the box equipment pays for road transport with high average speeds. The smooth side walls reduce fuel costs due to low air resistance, at the same time, they can be easily liveried and cleaned.

Of course there are many practical features you can count on.

150mm floor = 50mm more inner height



**Corrugated side walls.** The hard-wearing steel box with corrugated side walls is particularly suited for high railway transport, where trucks are only used for transport to and from the railway station.



## Roller shutter equipment.

For rapid loading cycles it is recommended to equip the box with roller shutters. The KRONE roller shutters are licensed by the German Railways.



### Various interior equipment.

Optionally, several inner wall designs can be combined. Keyhole side walls with plywood inlays or plywood with load securing rails in the desired number and fitting height.



#### Versatile folding tables. Practical solution for small package service: folding tables integrated in the side walls. In folded-in position, they provide keyhole profile for load securing; the full pallet width is retained.



#### Doubledeck equipment is ideal to maximize container. In combination with the keyhole side walls, it offers optimum load securing.

Doubledeck equipment.



#### Offset Front wall.

Higher volume swap bodies (7.82 m) can be equipped with an optional "Offset Front wall " to improve the turning circle.

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#### STEEL BOXES



### Equipment for transporting textiles.

For transporting textiles, the equipment with roller shutter, keyhole side walls and empty rail support is recommended. It also comprises a dust-protection curtain and an anticondensation coating.



#### Translucent plastic roof.

Better vision for loading and unloading operation is offered by the translucent plastic roof. Optionally, only partial segments of this design can be used.



#### Plywood equipment.

Plywood swap bodies are equipped with rails for load securing which are attached.



## Smooth front and side walls.

Smooth front and side walls are easy to clean and reduce fuel costs owing to their low wind resistance.



#### Aerodynamic.

The KRONE Dry Box is also available as an aerodynamically optimised swap body that has up to 7.9 percent less flow resistance compared with a conventional swap body. 

#### SWAP BODY. COOL AND DRY BOX DUOPLEX STEEL.







#### Air Cargo Box.

The box has five pneumatic roller beds that can be raised or lowered, in two sections, independent of one another. The rollersystem has a lift of approx. 11 mm and is designed for a load capacity of 550 kg per meter. The operator console is provided laterally at the rear frame.



#### Multi Switch.

The load securing system Multi Switch is ideal for securing air freight containers. It allows longitudinal and transverse cargo securing.





#### Securing air freight containers.

Palette stops embedded in the floor are used to secure the load and to prevent container movement. Their positions are selected in a way that either two containers, one behind the other, or one container centrally (due to even of load distribution), are secured properly.



#### **Cool Box Duoplex Steel.**

With the new Cool Box Steel, KRONE completes its programme of insulated box bodies. The proven Duoplex Steel technology is used here. Solid and technically proven down to the last detail. The body assembly combines the advantages of an exchangeable unit with an insulated body assembly. The body of the box is produced with single piece steel sheets and the foamed floor is specially reinforced. Even the interiors offer solutions for every type of transportation. Lashing rails (single piece or located between double deck rails) fitted for securing cargo or double deck-equipment are part of the range - as per the Cool Liner Duoplex. A low-noise floor made of aluminium meets the requirements of noise reduction. Only the 260 mm thick, light-weight floor allows 2,600 mm internal height as standard at a tare weight weight of only about 3,490 kg (without cooling unit). Solid and cost-effective to the last detail. Here you have the right answer to every transport assignment.



#### Dry Box Duoplex Steel.

The Dry Box Duoplex Steel is the swap body for fresh goods. Partially insulated, continuous Duoplex steel wall panels with a panel thickness of only 30 mm. Recessed double deck rails and continuous or sectioned load securing rails offer high transport efficiency and best possible options to secure cargo. 300 mm high kick strips and 30 mm plywood floor provides stability and high load carrying capacity.

### FOR EFFICIENT PLANNING. THE SWAP CURTAIN BOXES.



WHERE PLANNING IS CONCERNED, FLEXIBILITY IS NEEDED. IN THE FIELD OF CUR-TAIN BOXES, KRONE LEAVES NOTHING TO BE DESIRED. WHETHER WITH SOLID ROOF, HAMBURG ROOF OR CURTAIN SLIDING ROOF, WITH SIDE WALLS, WITH CURTAINSIDER OR DROP SIDED CURTAINSIDER, WHETHER 7.15, 7.45, 7.82, OR 13.6 M LENGTH AND GROUND CLEARANCE OF 1,000 TO 1,320 MM: THERE IS THE RIGHT CURTAIN BOX AVAILABLE FOR ANY APPLICATION.

Naturally in the proven KRONE quality: certified acc. to EN 283/284, with long-term protection for the steel components, and with practical equipment solutions. For example

as a steel box with side curtain equipment and drop sides. Or as a steel box with curtainsider equipment.



#### Simple sliding roof operation.

The sliding roof features a pneumatic-spring-supported rear-end cross-beam for a simple operation from the ground. Sliding roof and curtain fabrication are tested acc. to EN 283 for combined transport.





#### Extra-long swap body.

When more length is required: the 13.6 m long swap body<br/>with sliding curtain equipment. Transported on a Box Liner<br/>eLTU 5 Plus.The Mega curtain box is equipped with an optional lifting<br/>roof which is easy to operate using a hydraulic / mechani-<br/>cal hand lever.



**Professional swap body.** The Profi Box is the standard swap body with drop sides and small doublewing doors at the rear.



### Wide range of integral equipment.

Hamburger roof system, drop sides, wooden planks, and the protected front wall are standard equipment of the Profi Box.

#### Movable side post.

The simple handling of the movable side post using one-hand operation facilitates loading and unloading. (Other side post designs are available as options.)

#### CURTAIN BOXES



#### Mega equipment.



#### Mega floor.

For high volume swap bodies, the floor plates are laid between the cross-members of the frame. As a standard feature, the body is equipped with a multi-lock securing bar which has lashing points at 100 mm intervals. The bar can also be used as a pallet stop.



#### Highest stability.

Solid grappler pockets withstand the most rigorous of swap body operations.



**Reinforced centre posts** As an optional feature, the centre posts can also be reinforced.

### BECAUSE THINKING AHEAD PAYS. TRAILERS AND SUPERSTRUCTURES.

FUNCTIONALITY IS A TRADITION. FROM THE VERY BEGINNING, KRONE HAS DEVELOPED FLATBED AND CURTAIN-SIDED TRAILERS, AND EVER SINCE HAS DESIGNED TRAILERS AND BODIES WITH PRACTICAL FEATURES UPON WHICH YOU CAN RELY FOR ECONOMICAL DAY-TO-DAY TRANSPORT.







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### **EXPERIENCE LOADING INNOVATION.** THE LOAD CARRIERS.

(D) KRONE () KRONE Load Car Load Carrier

KRONE FLATBED AND CURTAIN-SIDED TRAILERS HAVE STOOD FOR PREMIUM TRANSPORT SOLUTIONS FOR MORE THAN 30 YEARS. THE TRAILERS ARE OF SOLID DESIGN, SIMPLE TO USE AND RELIABLE ON THE ROAD.



Since its foundation in 1971, KRONE has built flatbed and curtainsided trailers and has developed numerous classics for everyday transport. Thus KRONE invented the curtain frame with "one-hand operation", which can be completely dismantled by the driver en route without

any assistance. Plus, only extensively tested, high volume components are used. Thus the KRONE Load Carriers of today are still forward thinking as well as operationally safe investments due to their functional handling, their market proven components, and their first-class manufacture.









## Safe drop side equipment.

Side panel drop sides closures have an adjustable mechanism. The side post is fitted with an unhook safety arrangement and drop sides with a tension rod and internal pressure detector.



#### Solid Multi Lock frame.

Similarly, the Load Carrier with drop sides has the Multi Lock outer frame. An integrated collision protection prevents damage to the drop sides.



Superstructure on 3-axle truck.

In sliding curtain design with lowered coupling for central axle trailers.



#### Solid front wall.

The inside of the front wall is equipped with a double impact protection, using a raised front end chassis and phenolic plywood plate fixed to the front wall.



#### Lowered coupling.

Upon request, KRONE equips your truck with a lowered coupling and a foldable underrun bar.



**Solid rear.** Solid steel buffers at the corners protect the corner stanchions and provide safety during dock operations.

#### A few of the versatile KRONE platform trailers.



#### Through-loading trailer.

In volume design with 3-axle truck and centre-axle trailer. Both units are fitted with 3 pairs of drop sides. The rear panel of the flatbed body and the front bulkhead of the trailer are fitted with 4-paneled container doors. An optional hydraulic tow bar can be fitted to adjust the distance





**2-axle drawbar trailer.** In sliding curtain design.





between the tractor and trailer and is also convenient for through-loading. A solid bridging plate in front of the front bulkhead of the trailer enables through-loading up to the front bulkhead of the platform body.

#### Tail lifts.

Tail lifts from different manufacturers, in upright or foldable design, are available.



**3-axle drawbar trailer.** In sliding curtain design.

### LOAD CARRIER. BUILDING MATERIALS TRANSPORT.



#### Building materials trailer.

Over many years KRONE has introduced many successful vehicle solutions for everyday transport. Trailers for carrying building materials of any type are included. Fold-down and removable Kinnegrip posts are also part of the product range due to their ease of handling. Furthermore, the front wall has been designed to allow completely free loading from either side.





#### Multi Rail

The new strapping rail for building material trailers integrated in the centre of the floor runs continuously over the entire trailer length. Two strapping points, each with 2,000 daN are located every 100mm along the rail. The load must not exceed a total of 8,000 daN over a length of 1,000 mm.



**Double locks.** Double locks for high dropsides.



Flat front wall.

Due to the single panel, slim front wall, the KRONE building materials trailer can be loaded and unloaded freely from the sides. This saves time and unnecessary manoeuvring of materials.



#### You have the choice.

As standard, KRONE fits high strength pull-out and plug-in posts. However, Hestal or Kinnegrip posts can be chosen for additional ease of handling. Depending on customer preference, components such as Hestal tilt posts can be fitted with drop-sides flush to the frame. In the fold-down position the posts can be removed and are fitted with easy-grip handles.





**Sturdy retainer chains.** Retainer chains are available as an option.

**Folding steps.** Optional folding steps at the rear and/or at the front of the trailer for ease of access.



#### Tailor-made to your requirements.

Whether the classic two-axle trailer or centre axle trailer, KRONE offers different drop-side heights which you can specify to suit your transport requirements. You can choose between drop-sides with a height of 550, 750 and 1,000 mm. KRONE drop-sided trailers are fitted with continuous hooking edges as standard which provides additional load stability and safety. You can also specify the height of the front wall. This is available in heights of 1,200, 1,600 and 2,000 mm.









Retainer chains. The tail gate is safely lo-

wered with the aid of retainer chains.



### NEW CONCEPTS FOR TRANSPORT BUSINESS. INNOVATIONS FOR THE FUTURE.

KNOWING TODAY WHAT WILL MOVE THE WORLD TOMORROW. AS AN INNOVATION LEADER, KRONE TODAY DEVELOPS NEW TRANSPORT CONCEPTS WHICH WILL HELP YOU TO REACH YOUR SUSTAINABILITY TARGETS EVEN SOONER. MEANWHILE, OUR CURRENT INNOVATIONS WILL SET NEW STANDARDS REGARDING ECONOMY.





ECOPACKAGE LONG HGV DWC RECUPERATION AERO LINER

### **ENVIRONMENT PROTECTION THAT PAYS.** THE FUEL-SAVING ECOPACKAGE.



WHEN IT COMES TO COMMERCIAL INNOVATIONS, YOU SHOULD KNOW WHICH WAY THE WIND BLOWS. ON THE PATH TO THE FUTURE, FROM EVERY ANGLE KRONE LAYS EMPHASIS ON EFFICIENCY AND SUSTAINABILITY. THIS APPLIES TO OUR MANUFACTURING PROCESS. AND IT APPLIES ALL THE MORE WHILE CONCEIVING NEW TRAILER DESIGNS. WITH ECO PACKAGE, CONSISTING OF A NEW TYPE OF EASYTARP CURTAIN AS WELL AS A FUEL SAVER KIT, KRONE OFFERS A NEW SOLUTION WHICH SAVES ON FUEL, CO, AND COSTS.

#### Economy tolerates no resistance.

In the transport business, the effect of air resistance often is underestimated. Therefore, so far only tractors were equipped with aerodynamic components, such as spoilers, while the streamlined equipment of the trailers seemed to be too expensive. But KRONE engineers now put away this prejudice and, after numerous model trials, developed an aerodynamic package which will pay quickly. They devised even the smallest possibilities to make a trailer more streamlined, also taking weight into account. The result: fuel savings of up to an amazing 7 % as well as clearly reduced  $CO_p$  emissions.

The aerodynamics of the vehicle are improved even more by the new aerodynamic rear wind deflector from KRONE - a solution by WABCO. This system is mounted to the rear door with only a few connecting points and deflects the air flow, thus reducing the overall resistance of the vehicle.

Potential for aerodynamic savings and thus fuel savings is also achieved with the curtain; KRONE uses the EasyTarp side curtains that are equipped with a pneumatic central locking system. The side curtains are fastened on the front and rear corner posts in a conventional manner, and are tensioned horizontally with the aid

of a hand ratchet at the rear of the trailer. Vertical tension is achieved using 4 pneumatically powered locking hooks per side that are activated via a switch





#### Aerodynamic FuelSaver kit.

The FuelSaver side panels contribute to reduction in air resistance. By using the maintenance flaps, all trailer controls including tyres and add-on components are easily accessible anytime. The KRONE FuelSaver kit is made of plastic and weighs about 220 kg.



in the lower area of the front bulkhead which engages a tension rope running horizontally at the bottom of the curtain. When open, the locking hooks pivot back under the external frame to protect against damage (e.g. from a forklift). This innovative side curtain system offers further advantages to both the driver and transport company: side curtain aerodynamics is improved owing









to the absence of conventional, spring-loaded buckles and the load and unload times are shortened due to the pneumatic locking mechanism. Furthermore, the risk of driver injury is significantly reduced because the driver operates the pneumatic central locking mechanism at the front of the trailer, and thus cannot be injured by a slipping load.

### LOADS OF LENGTH -THE LONG HGV.



THE COMMERCIAL VEHICLE COMBINATION OF THE FUTURE. THE LONG HGV IS THE INNOVA-TIVE MODULAR CONCEPT FOR EFFICIENT AND ECOLOGICAL ROAD HAULAGE THAT KRONE HAS CONSEQUENTLY CONTINUED TO DEVELOP OVER THE PAST FEW YEARS. TODAY, THIS COMMERCIAL VEHICLE COMBINATION OFFERS THE BEST POSSIBLE LOAD CAPACITY PER HGV AND, WITH LESS FUEL CONSUMPTION PER TON KILOMETRE AND EMISSION OF POLLUT-ANTS, ENSURING A REDUCTION OF TRAFFIC VOLUME.

The commercial vehicle that has 50% more volume. With a length of 25.25 m and a loading volume of up to 150 m<sup>3</sup>, the Longer Heavier Vehicle provides space for up to 50 % more cargo. It houses 53 Euro pallets instead of 34 without any loss of safety. This swap-body drawbar combination is fitted with state-of-the-art equipment: for example, the tractor has lane-departure warning and brake assist, while the trailers are equipped with an electronic brake system (EBS), an integrated stability program (RSS), specific axle load display and a rear-view camera. In addition, the Longer Heavier Vehicle mainly impresses with its modular concept.

The most frequently-used system is a combination of tractor with a fixed or a swap body, and a dolly on which a semitrailer is hitched. To satisfy the turning circle requirements (German regulation "BO Kraftkreis" that limits the turning circle), the dolly has an active controlled front axle. This dolly is available with the standard coupling height of 1,150 mm as well as for volume semitrailers with a coupling height of 980 mm. Possible heights between these are 1,075 mm and 1,110 mm. Here, the following tyre sizes are used: 445/45 R19.5, 385/55 R 22.5 and 385/65 R 22.5.

#### Road train combination with truck, dolly and semitrailer.



#### Exceptionally articulated: the dolly.

KRONE has developed an actively controlled dolly in order to guarantee optimum safety and good driving behaviour also for a length of 25.25 m. Thus the Long HGV masters the "BO-Kraftkreis" (a defined turning circle) without any problems, as the active steering makes sure that the train runs on an inner radius of 7.20 m without the semi-trailer running to the inside or outside when driving a 360 degree circle.



Combinations without steerable dolly fail due to the narrow steering transmission on the inner circle.



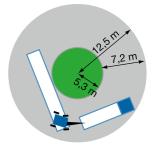
Road train combination with semitrailer and centre-axle trailer. For this tractor combination, the trailer is fitted with an additional coupling and retractable rear underun guard to allow connection to a centre axle trailer.



Road train combination with B-Double semitrailer and an additional semitrailer. The B-Double can mainly be found in Scandinavia and the Netherlands. The B-Double can be used as a carrier for 20' containers or exchangeable containers up to 7.82m. In the extended position, a semitrailer coupling is available for combination with a standard semitrailer or a container chassis. The total length of this vehicle is also 25.25 m.







Long HGV with steerable dolly - the trailer runs within the 7.20 m wide circular area.

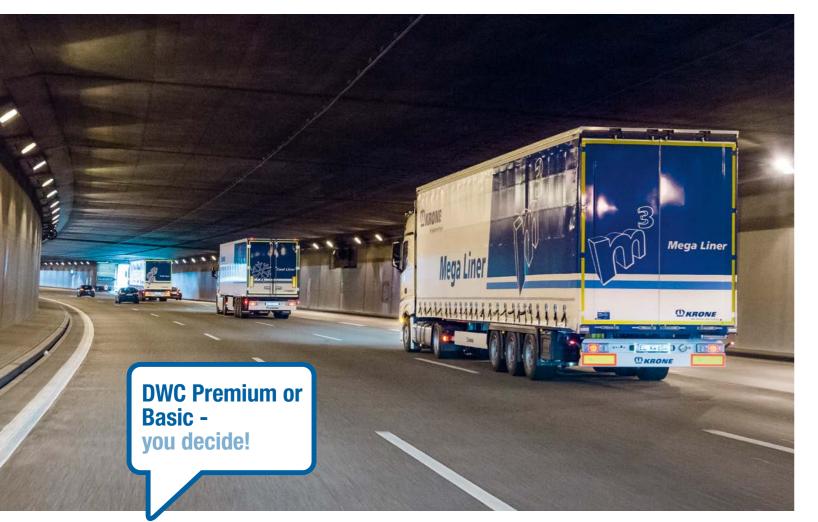








### **EXCESS WEIGHT – NEVER AGAIN.** THE DWC WHEEL BASE CONTROL.



HOW CAN YOU PREVENT EXCEEDING THE PERMISSIBLE AXLE LOAD ON THE REAR AXLE OF A TRAILER? KRONE'S ANSWER TO THIS PROBLEM IS ITS "DYNAMIC WHEEL BASE CONTROL," DWC IN SHORT. THE APPLICATION OF THE DWC TOOL ALLOWS A THREE-AXLE SEMITRAILER THE USE OF ALMOST THE SAME FUNCTIONS WHICH WOULD OTHERWISE REQUIRE INTEGRATION OF AN AXLE LIFT AND / OR REAR STEER AXLES.

With the innovative DWC-Premium-Tool, based on electronic air suspension, the wheelbase automatically reduces as air is released from the air bags on the third axle. Weight is thereby distributed away from the 5th Wheel to allow further loading. The dynamic Wheel Base Control automatically checks the load on the first and the second axle up to the permissible axle load. Furthermore, KRONE's DWC system can detect when a load is uneven, when for example, the weight is distributed more to one end or to the side. An automatic maneuvering system integrated in the DWC also improves the semitrailer's cornering at a lower speed range by loading the first and the second axle. KRONE also produces a manual version of the tyre base control in addition to the automatic one. DWC Basic is different from DWC Premium in its operation and range. Before a journey, the driver must activate Wheel Base Control from the operator console of the semitrailer. Thereby, the axle load on the last axle is restricted to 1.5 tons, total axle load to 19.5 tons. With suitable accessories the maneuvering system of the basic version can be started by a driver using a switch in the cab.





#### Automatic dynamic Wheel Base Control.

The wheel base is reduced by easing the pressure of the air bag on the last axle. The resultant theoretical extended rear overhang provides a counterweight for loading over the 5th wheel. Thereby, the 5th wheel is relieved so that the semitrailer can now be further loaded. The dynamic Wheel Base Control automatically checks the load on the first and the second axle up to the permissible axle load and dynamically checks the load of the third axle thereafter. The system can be turned off using Wabco Smartboard.

#### **KRONE DWC - MAIN FUNCTIONS:**

- Starting assistance improved traction of the truck (combined with the lifting axle).
- Maneuvering system reffectively reduces the trailer wheel base.
- Wheel Base Control to avoid overloading the tractor drive axle.
- Automatic activation:
- Wheel Base Control through Using air bag pressure control.
- Maneuvering system system for corner control.
- Activation through driver:
- Starting aid (activated by driver)



#### Automatic maneuvering system.

A reduction of pressure in the air bags at the rear axle of the semitrailer causes the center of movement of the total axle assembly to move towards the truck. Thereby reducing the wheel base in the speed range from 1.8 to 30 km/h. Thereby the trailer's cornering is improved. The system can be turned off through Wabco Smartboard.



KRONE DWC – ADVANTAGES: For Truck:

- Maintaining the axle load.
- Reduction in damage to tyres and driving axle.

For trailer:

- Reduction in damage to tyre on first and third axles.
- Optimized maneuverability and movement around corners.
- Alternative to steering axle.

### **RENERGY – THE GREEN TECHNOLOGY.**



RECUPERATION - SUSTAINABLE TECHNOLOGY IS OUR GOAL. THE IMPROVEMENT OF VEHICLE ENERGY EFFICIENCY AND THE ASSOCIATED DEVELOPMENT AND INTRODUCTION OF SUSTAINABLE FUELS AND DRIVE SYSTEMS, PLAY AN IMPORTANT ROLE AT KRONE'S TRAILER PLANT.

#### Our motivation:

KRONE is already working Intensively on logistics for tomorrow. A good example of this development work from KRONE is the new refrigerated semi-trailer with VIP (vacuum insulated panels) which increases cooling efficiency up to 25 per cent.

Reduced fuel usage by the refrigeration system in turn leads to a reduction in CO<sub>2</sub> emissions. Moreover, solar panels covering the entire roof, contribute to the conservation of energy.

#### Aerodynamic.

Also, in relation to aerodynamics, KRONE is a "First Mover" in the trailer market. The one-piece side skirts -"Fuel Saver" - as well as the EasyTarp curtain system already lead to savings in CO<sub>2</sub> and fuel of up to 7 per cent.

#### Philosophy.

KRONE's philosophy is to continue developing systems that permit sustainable reduction of fuel and CO<sub>a</sub>. Accordingly, development of the new drive system has a particularly high priority in the trailer production programme.

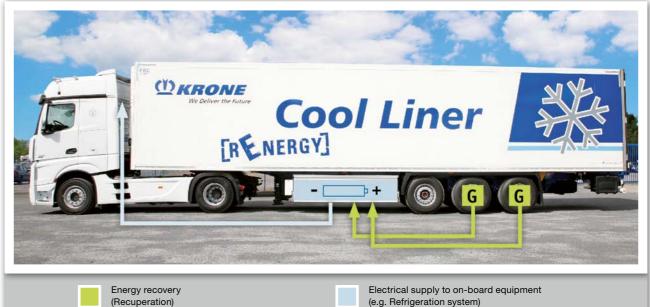
RAILER

CATEGORY

#### Innovation and development for the future - KRONE REnergy

As part of the research project for determining the potential for recuperation, or energy recovery, KRONE together with well-known partners is developing

and testing a research trailer which shows how refrigeration units can be operated using braking energy.



(Recuperation)



Control unit

#### Utilise energy that would otherwise go to waste

When looking for ways to protect the environment and increase efficiency, it is worth taking a look at energy that has not yet been utilised. Brake energy, for example. As part of a research project, KRONE developed a trailer that works according to the principle of energy recovery - the so-called recuperation: Kinetic energy (movement energy) is converted into electrical energy and can supply components in the trailer.

#### Recovering energy.

With a conventional brake, the kinetic energy of the trailer is converted into heat through friction, which is then dissipated unused into the environment. This is different with a regenerative or recuperation brake, which could be used in the future on the KRONE Cool Liner to operate the refrigeration equipment: In this process, a major part of the energy produced is converted into electricity through the use of axle generators, instead of the braking system, which simultaneously reduces the trailer speed.



#### KEY ADVANTAGES AT A GLANCE

- Reduction of exhaust and noise emissions.
- Fuel savings (refrigeration system).
- Reduced running hours (refrigeration system).
- Reduced brake wear.

#### Touch screen operation.

The driver will be able to easily and conveniently operate the system using a console in the vehicle cab. A touchscreen monitor shows all required information and intelligent electronics connects and controls the various components of the system.

#### Project partner





Krebs & Aulich GmbH







Ministry of Economic Affairs, Employment and Traffic in Lower S





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### AERO LINER + CONCEPT S. FUTURE ALREADY STARTS TODAY.



THE LONG-FINNED PILOT WHALE IS AN EXAMPLE OF AN OPTIMAL STREAMLINED SHAPE. IT HAS PERFECTLY ADAPTED TO THE AQUATIC ENVIRONMENT. KRONE AND MAN HAVE EM-BRACED THIS DESIGN FOR THE AERO LINER / CONCEPT S. AERODYNAMICS IN PERFECTION, COMPLETED WITH A REVOLUTIONARY ROOF SPOILER CONCEPT – THIS COMPLETELY CLO-SES THE GAP BETWEEN TRACTOR UNIT AND TRAILER AND ELIMINATES AIR RESISTANCE. THE SIDE PANELS AND THE REDESIGNED REAR OF THE VEHICLE CONTRIBUTE TO OPTIMUM AIRFLOW RESISTANCE.

#### **Customer orientation.**

The needs of the price-sensitive forwarding and logistics sector are key in the development of the semi-trailer truck Concept S with AeroLiner. The vehicle complete with the trailer provides the same loading volume as conventional combinations. The concept is understood by manufacturers of vehicles and superstructures with the next generation of lorries – the customers benefit from less fuel consumption and the environment from a reduction of CO<sub>2</sub>.

#### Flexible loading and unloading.

A redsigned rear end reduces air turbulences and thus consumption. The disadvantage: The aerodynamically designed rear end is not suitable for conventional back door loading, therefore the trailer is equipped for ramp and lifting tail gate operation.

#### Auto-equivalent drag values (cw).

MAN has substituted the rear-view mirrors with cameras, integrated the fuel tanks in the body-work for optimal streamlining and electrified the ancillary units. The Concept S consumes up to 25 percent less fuel and accordingly the entire combination emits less CO<sub>2</sub> emissions.

#### Increased safety.

The EU wants to achieve zero road casualties. Advanced Driver Assistance Systems provides a method to accomplish this. Many of these systems are already used in lorries and buses. Concept S/ Aeroliner offers the driver a better view, an energy-absorbing crumple zone and an optimized underride guard at the side and the rear.

#### Reduction of rolling resistance.

In contrast to present five-axle combinations the semitrailer tractor Concept S with AeroLiner is only equipped with four axles – which reduces the rolling resistance and increases the energy efficiency. Safety is still guaranteed.



#### Multifunctional rear.

The design of the rear of the Aero Liner is suitable for ramp loading. It is equipped with a rolling door which has roof panels that can be lifted and therefore offer an optimal loading height. The underrun protection at the rear has been designed to incorporate the latest safety aspects. Additionally, warning symbols can be displayed at the rear with the use of a screen in order to warn the following traffic against hazardous situations.

#### Council Directive 96/53/EC:

The European Union lays down size and weight of commercial vehicles in the Council Directive 96/53/EC – and thus the form of present-day lorries. With that the EU commercial prevents the use of the aerodynamic potentials of commercial vehicles. The truck study Concept S shows the efficiency in the design of lorries.

### **EVERYTHING INCLUDED – WITH SAFETY.** THE KRONE SAFETY EQUIPMENT.

BETTER LOADING WITH SAFETY. KRONE TRAILERS ARE NOT ONLY EQUIPPED AS STANDARD WITH THE MULTI LOCK SIDE RAVE THAT WON NUMEROUS AWARDS. THEY HAVE ALSO BEEN EQUIPPED WITH STABILISING SYSTEMS FOR YEARS. THUS, WHERE SAFETY FOR ALL TRANSPORT IS CONCERNED, KRONE PROVES ONCE MORE THAT WE DELIVER THE FUTURE.







### MULTI SAFE SYSTEM

### FOR LOADS OF SAFETY. THE KRONE MULTI SAFE SYSTEM.



WE ALWAYS OFFER USEFUL INNOVATIONS FOR YOUR SAFETY. WITH OUR MODULAR MULTI SAFE SYSTEM, WE DEVELOP AWARD-WINNING INNOVATIONS WHICH MAKE TRANSPORT SAFER, MORE PRACTICAL, AND MORE EFFICIENT.



#### Multi Lock / Multi Block.

The Multi Lock side frame is equipped with about 130 strapping points per vehicle side; the loading capacity per strapping point amounts to 2,000 daN (~kg), with a total permissible load of 8,000 daN (~kg) over a length of 1,000 mm. With the solid KRONE Multi Block loading beam, your cargo can be transported even more safely now. The steel beam with 22 load securing points is positioned on the load floor transversely to the direction of travel and is locked in the Multi Lock side frame. Thus it serves as a solid stop edge for the load and at the same time as an additional fastening beam is 80 mm wide and 130 mm high. In combination with the Multi Lock external frame, this results in more than 3,000 possible strapping points.



#### Multi Wall.

The Multi Wall system offers an additional front wall in the trailer (load capacity up to 8.000 daN area load). The plugin posts are locked in the Multi Block shoe and fixed by side strapping in the Multi Lock frame. Insertable aluminium cross beams complete your variable front wall.







#### Multi Rail.

The new strapping rail for building material trailers integrated in the centre of the floor runs continuously over the entire trailer length. Two strapping points, each with 2,000 daN are located every 100mm along the rail. The load must not exceed a total of 8,000 daN over a length of 1,000 mm.

### MULTI SAFE SYSTEM

#### Multi Fix.

The innovative Multi Fix system secures pipes, round steel or steel plates in minimal time (for loading weight up to 25 tonnes). With support beams, shoes, restraining posts and one or two securing nets, combined with the Multi Lock external frame, your steel cargo is secure without problems.

#### Multi Lash.

Multi Lash allows the universal use of all hook profiles on strapping belts. The pivoted securing rings allow the straps to be hooked-in above the side rave and thus the flattest of loads can be secured.

The flexible arrangement of these strapping rings is particularly innovative, as they can be simply attached at any position along the Multi Lock side rave. The flexible feature enables a parking position beside the floor, so that loading and unloading is possible without restrictions. Multi Lash can be used with sliding curtains as well as with drop sided vehicles. The loading capacity amounts to 2,000 daN (~kg).



#### Multi Block Paper.

Easy handling of paper rolls. As part of a Multi Lock / Multi Block combination, with the Multi Block Paper you can secure paper rolls onto standard trailers with the minimum of effort.

### FOR LOADS OF SAFETY. THE KRONE MULTI SAFE SYSTEM.





#### Multi Reel.

Multi Reel has been especially developed for the securing of cable coils (up to 17 tons in weight). It was designed for the KRONE Paper Liners, and uses the same fixing points in the floor to take the adapter plates, on which the support wedges are attached.

#### Multi Belt

A tension belt that is fixed to the external frame of the vehicle and cannot be lost is equipped with an additional wire hook for extended use in the radius of the distance between belt mount and additional wire hook.

**For Loads** 

of Safety



#### Multi Screw.

Unlike welded versions, the screw-fastened Multi Screw pallet attachment elements can be quickly and securely attached to the side rave. This allows flexibility, even in the event of any necessary retrofitting.



#### Reinforced strapping points.

A welded, trapeziumshaped steel plate increases the strapping load strength of the Multi Lock side rave to 4 tonnes at this lashing position.





#### Multi Flex.

This option provides a solution for all other types of hooks when using lashing straps and chains. The chain adapter will not be bolted to a specific position. It is fixed by hooks that are fitted to the Multi Lock side rave. Therefore it can be used over the full length of the trailer and on curtain sider as well as on drop side trailers. The loading capacity amounts to 4,000 daN (~kg).



#### Multi Strap.

Multi Strap is a sliding tension strap system over the entire length of the trailer that adds flexibility when securing the load. The straps, held in a special roller carriage under the roof of the trailer, can be guickly moved to the required position using a traction device. One-sided opening of the side curtain suffices in this regard.

After loading, the tension straps are in place and can be







#### MULTI SAFE SYSTEM



promptly secured. Straps that are not needed can be stowed on the front bulkhead behind a holder to save space; thus the cargo area remains accessible. After loosening the tension straps, they are pulled back into their original position underneath the roof using bungee cords. The maximum loading width is always available. After unloading, the tension straps no longer need to be rolled up and stowed, and they are quickly ready for next time.

#### Multi Tyre Comfort.

With the Multi Tyre System, KRONE is now offering a certified load securing system which greatly simplifies the previous, more complicated tyre loading process and reduces loading and unloading times. The system comprises a double-walled side curtain - designed for the purpose with five integrated and vertical light alloy profiles in each of the four side pillar sections. In addition, two special load securing ropes per side that run over the entire length of the trailer are used. Thanks to the KRONE Multi Tyre concept, diagonal tensioning is only required for partial loads to secure the load in the rear.

#### THE POINTS THAT MATTER.

- Award-winning innovations for load securing.
- Modular system for individual transport requirements.
- > Practical and solid safety features.
- Safe stowage of the cargo.
- Highest loading efficiency thanks to flexible technology.
- Saving time when loading goods.
- Increased economy through more safety and more efficiency.
- Highest reliability and longevity.

### **EVERYTHING INCLUDED – WITH SAFETY.** KRONE SERVICE.

WE ACCOMPANY OUR TRAILERS THROUGHOUT THEIR ENTIRE SERVICE LIFE. FOR KRONE QUALITY DOES NOT END AT THE FACTORY GATE. WE THOUGHT OF EVERY QUESTION THAT COULD ARISE ON THE ROAD TO ENSURE THAT YOU AND OUR TRAILERS WILL BE DRIVING WELL, ALWAYS AND EVERYWHERE. AND WE FOUND SOME CONVINCING ANSWERS.







### **KEEPING AN EYE ON YOUR CARGO. KRONE TELEMATICS.**



You are not always aware of your trailer's exact location. To help you keep full control, KRONE has developed KRONE Telematics. KRONE Telematics ensures that you are informed 24/7/365 about the status of your trailer and its load. You have constant access to the location, temperature and the technical status of your trailer - from

#### Talking directly to your reefer unit by remote control.

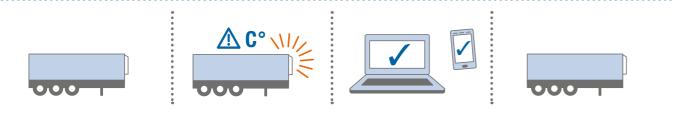
Live data transfer has revolutionized the monitoring of reefer units. This is real progress in quality assurance as the cold chain can be closely managed. 2-way communication - controlling and operating.



wherever you are. Designed to reflect the needs of our customers, KRONE Telematics not only saves you time and money but improves the flow of information within your company while giving you peace of mind that your valuable goods are under control.

Now, it is time for the next step into the future of telematics: 2-way communication. In other words, this means that you have the ability to access the reefer unit from any location with the new generation of KRONE Telematics. You can now modify settings in your office.

This is optimum quality assurance: quick and direct corrective action as soon as a fault occurs.



Active control - anywhere and anytime. Direct access to the reefer unit from your computer or your mobile phone. .....

### **WKRONE** TELEMATICS



#### **Telematics GPS.**

By knowing where your trailer is located, the traffic office knows where all your assets are, where they are headed, where they are held up and how long it will be until they reach their destination. Information to keep you ahead!



KRONE Telematics uses a universal telematics platform, Door status. Whether using standard door contacts or spemeaning it's compatible with all manufacturers. Correcial RFiD door switches which cannot be tamspondingly, a variety of telematics systems are easy to pered with and interface with the door locking system, manage using a portal solution. Various isolated solutions the door surveillance kit puts you in the driver's seat reare combined and offered to customers as an all-in-one solution. Regardless of vehicle type, vehicle manufacturer garding load security. or integrated telematics box, users have their own userspecific access to all the data provided.



#### Temperature control.

Monitoring temperatures on the trailer via manual datalogger units is a thing of the past. Online information via temperature probes regarding the reefer status, operating mode, alarm codes, set points and even interactive dialogue with the refrigeration unit from the office is all provided by KRONE Telematics. Data can be stored for 18 months thereby complying with current EU regulations. Live action - quality online!



#### Technical package.

By integrating with the trailer's EBS via the CANbus system, KRONE Telematics monitors

all standard braking modules and extracts data regarding mileage, load weight, speed and brake pad wear. Your fleet is in good hands!



#### Coupling status.

Thanks to the coupling status, you're always informed of the current hitch status.

You can see exactly which trailers in your fleet are currently hitched to a tractor. This status report also informs you directly if the trailer has been correctly hitched to the tractor.



#### Integrated temperature recorder.

There is no need for a separate temperature recorder due to the certified temperature sen-

sors used by KRONE Telematics. The tasks usually completed by temperature recorders are completely adopted by KRONE Telematics.



**Control is good KRONE Telematics** is better

#### More flexible supply chain structures and a simpler workflow

- Bringing hardware solutions together.
- ) "Neutralises" the information and provides a NIC standard interface.
- Gives developers the opportunity to create their own application.
- Gives you the power to control your fleet independent of your telematics system.

#### CONTROL IS GOOD,

KRONE TELEMATICS IS BETTER.

- Continuous monitoring of temperatures and operating data..
- Documentation of data for 18 months.
- Surveillance of the area around parked assets (Geo-fencing).
- Transparent overview of costs.
- Distance control, determination of driving, loading and unloading times.
- Automated sealing.
- Simplified dispatching through the latest fleet positions.
- Regular reports about the wear and tear on your equipment.
- Easy installation on existing assets no unnecessary down-time.
- Live position and driven routes.
- Web-based data access.
- Data integration into your own systems solutions via standard interfaces.
- Compatible with all portals via standard interfaces.

### ALL PARTS AT A CLICK. KRONE SPARE PARTS.



CARRIERS HAVE TO MASTER THE TOUGHEST CHALLENGES AND PLACE THE HIGHEST DE-MANDS ON QUALITY, RELIABILITY AND CARE OF VEHICLE MANUFACTURERS AND THEIR PRODUCTS AND SERVICES. KRONE CONSIDERS SERVICE AS A COMMITMENT THAT DOES NOT END AT THE FACTORY GATES.

The spare parts are comprehensive, the components are made-to-measure and all standard accessories can be

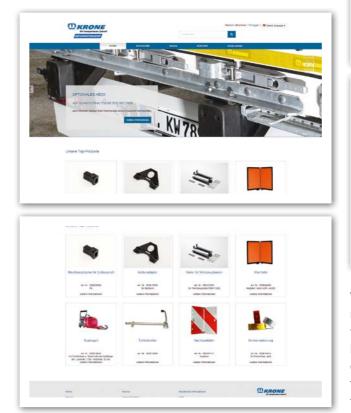
delivered. And the fastest and most reliable delivery is guaranteed. Online, per e-mail or by telephone.

### **() KRONE** SPARE PARTS **O**

"To continually improve the service for our customers", The technical KRONE Online Catalogue is available now at this is the challenge that the employees at KRONE Service have set themselves. "Spare parts".

For example, KRONE now offers a new online shop. Here, you can order **parts** quickly and easily. Come in and take a look.

At **www.krone-trailerparts.com**, you will find many accessories for your trailer, from KRONE axle parts to toolboxes.



For ordering, simply click on the button "Become customer", fill in the registration form and read the general terms of business. If you agree, you will be provided with your access data on the following work day at the latest. Online, under the information tag, you can find detailed instructions.

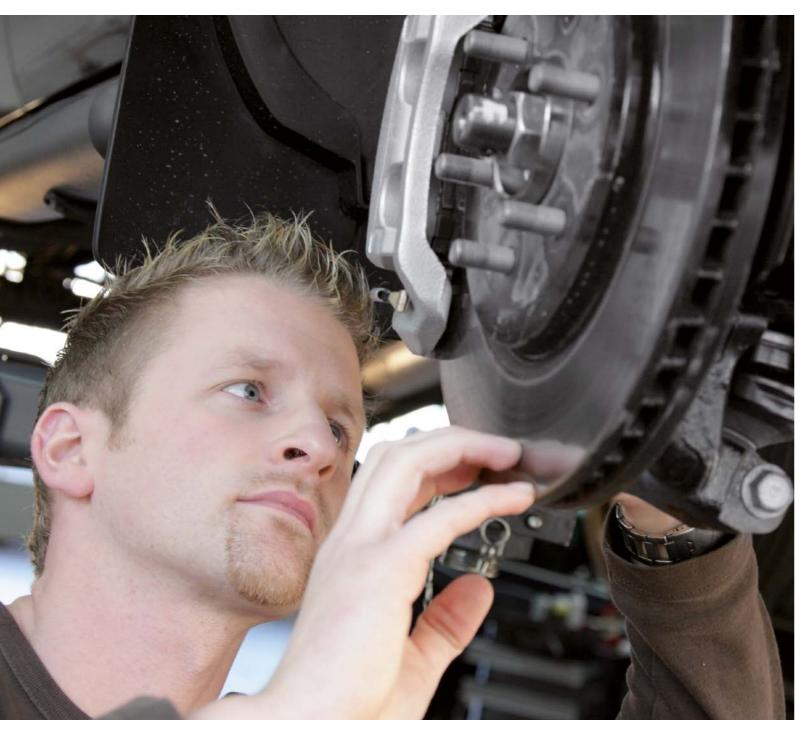




Via "Access catalogue", you can access the 'made-tomeasure' **spare part** for your KRONE trailer. Register and within a few minutes you will receive your access data by e-mail. With the option to order KRONE spare parts online, KRONE guarantees even faster parts supply. Naturally, you can still order your spare parts by telephone from your personal contact.

# ONE SERVICE. MANY BENEFITS. Simple online registration. Clear services. Wide range of products. Tailored components. Simple ordering. Competent contact persons. Numerous international warehouses. A delivery time of one to three days maximum: KRONE offers fast spare parts supply to every customer.

### A SERVICE THAT IS ALWAYS THERE FOR YOU. KRONE FAIR CARE.



SERVICE WITH FULL PERFORMANCE. THE NEW FAIR CARE SERVICE ENSURES THAT YOUR PROFILINER, MEGA LINER OR COOL LINER DUOPLEX STEEL IS FULLY MAINTAINED THROUGHOUT EUROPE.

With FAIR CARE, KRONE guarantees the completely maintenance-free utilisation of your trailer for 36, 48, or 60 months. This can be achieved with a flexible package which combines

the services to suit your operation. The monthly rate, too, is also flexible and is geared to the utilisation of your trailer:

### **WKRONE** FAIR CARE

#### KRONE offers FAIR CARE with 3 modules:

- FAIR CARE Trailer Service.
- FAIR CARE Tyre Service.
- FAIR CARE Cooling Engine Service.

#### The three KRONE Fair Care modules.

#### FAIR CARE Trailer Service.

Trailer Service that cares for your trailer's running gear and comprises:

#### Six-monthly trailer inspection.

Tyres, air suspension, brakes, axles including all fees for mandatory inspections.

#### Inspection date monitoring.

We inform you about the maintenance intervals of your vehicle and forthcoming mandatory inspections.

#### Breakdown service.

Immediate service in case of breakdown including all required spare parts.

#### Replacement of all worn parts.

Parts are replaced at once, including labour. Superstructures (box, curtain, etc.), side planks, bulbs, recovery and towing.

#### FAIR CARE Tyre Service.

The Tyre Service from KRONE's FAIR CAR Package guarantees optimum tyre quality at any time.

#### Tyre service.

We constantly check your tyres and quickly replace when necessary. Old tyres are replaced with new ones at regular intervals. In case of breakdown, only affected tyres will be subject to charge.

#### Breakdown service in case of tyre damage.

Immediate service in case of breakdown – even when Tyres are rejected following random inspections by the authorities.



#### FAIR CARE Cooling Engine Service.

#### Continuous service.

Ongoing service work on the cooling system, including oil, lubricants, and antifreeze.

#### Repair services.

Execution of all necessary repair work, in case of emergency due to breakdowns – even outside business hours, including all required spare parts.

#### Breakdown service.

We will support you in handling your accident and impact damage. Invoicing at realistic and fair prices.

HERE ARE YOUR FAIR ADVANTAGES.

- Maintenance and care for your Profi Liner, Mega Liner, and Cool Liner Duoplex Steel, optionally for 36, 48, or 60 months, worn parts and repairs included.
- Innovative Full Service package.
- Europe-wide "all-inclusive care" from one source.
- Costs are calculated acc. to actual trailer utilisation.
- Flexible modular system with three service modules.
- Europe-wide emergency telephone codes centralised and decentralised.
- Europe-wide uniform services and procedures.
- Cooperation with the quality guarantors of transport business.

# THE SERVICE NAVIGATION SYSTEM. KRONE SERVICE LOCATOR.



IF ONLY EVERYTHING WAS AS SIMPLE AS USING KRONE SERVICE. KRONE IS ALWAYS AVAILA-BLE FOR YOU THROUGHOUT EUROPE, WITH MANY SERVICE LOCATIONS WHO WILL PRO-VIDE THE QUICK SOLUTION TO YOUR IMMEDIATE TRANSPORT NEEDS WHERE EVER YOU ARE. THROUGHOUT EUROPE, YOU WILL QUICKLY FIND COMPETENT SUPPORT NEARBY WITH KRONE'S SERVICE LOCATOR.

# Step 1.

Your vehicle is somewhere in Europe and no longer roadworthy, or it requires technical help; with the establishment of a Europe-wide network of Service Partners it is possible to execute high-quality repairs quickly. Visit our homepage **www.krone-trailer.com** and select the menu item Service from the list.



# Step 2.

Then click on Service Locator.

# Step 3.

Now a search request opens where you can enter the town and, if known, the postcode or the street address. Then click on the Search button.

# Step 4.

The Service Locator quickly shows you all service workshops in the direct vicinity

- ) with their respective distance.
- It uses conventional and satellite maps,
- as well as providing detailed information concerning each workshop

# **WKRONE** SERVICE LOCATOR





# Also available as an App.

Service Locator can be conveniently accessed on your Smartphone or tablet PC (Apple and Android). The link to the free of charge App is: www.krone-trailer.com/ apps.



# We keep you moving.

With the 24 hour breakdown service from KRONE, our premium partner ADAC (General German Automobile Association) guarantees simple, direct and quick assistance throughout Europe.

In the event of a breakdown, make use of our free-ofcharge service hotline and you will receive assistance immediately. We will also keep you running on the road with the Service Locator.

# Start here to reach your service goals.

The KRONE Service Locator and many other practical services are easy to find on the Internet at *www.krone-trailer.com.* 

For more information, simply telephone your KRONE Customer Service on: +49 59 51 / 209-320.

# THE SIMPLE WAY TO FIND HELP.

- Direct assistance at www.krone-trailer.com
- Comprehensive garage network in the Service Locator.
- **)** Exclusive use of reliable original KRONE spare parts.
- Round-the-clock service
- Available online, anywhere and anytime.
- Fast, convenient, easy to use.



# PUTTING YOUR INVESTMENT ON THE ROAD. KRONE FINANCE.



# IN THE LOGISTICS BUSINESS, FLEXIBILITY IS THE DECISIVE MARKET ADVANTAGE. THIS APPLIES TO THE RANGE OF SERVICES, SCHEDULING AND ABOVE ALL, LIQUIDITY.

KRONE Finance gives you complete flexibility and the right finance package to suit your needs. Being specialists in transport equipment financing, we can structure the package which best suits your needs.

# Credit.

Based on your individual needs and the commercial use of the trailer, there are flexible terms including contract duration, deposit, monthly rate, first instalment date etc. You can take advantage of all the depreciation possibilities. Through the fixed monthly rates you also have an exact base for calculations for your investment.

# Leasing.

Leasing your equipment keeps the asset off the balance

sheet and allows you to use funds in other areas of the business. The terms are easily calculated and based on the revenue which will be generated by the equipment. This way, your investment is relatively low and proportional to income. At the end of the leasing period, you can negotiate an extension of the contract, return the trailer or purchase it outright.

## Hire-purchase.

Alternatively, the equipment is listed as an asset and can be depreciated over a given period. At the end of the term, a final payment is made and the ownership is fully transferred to your business. Furthermore, a fixed monthly rate over the complete period allows you to more accurately budget and to control your running costs.



The professionals for tailored financing solutions. Consulting needs to be personal. For this reason we are happy to also inform individuals of different possibilities for enconomical financing. Your contact partners are not only financial experts but they also offer their profound knowledge in the industry.





# FINANCE

# FULLY LOADED WITH FINANCE EXPERTISE.

- Commercially advantageous in finance planning.
- Flexible financing models like leasing, rental purchase, investment credit
- Competent and comprehensive financial consulting.
- Individual advance and installment payments.
- Fast processing
- Contact partner with in-depth industry knowledge
- Tailor-made products and financing from one source

# **PROVEN VEHICLES.** KRONE USED.



QUALITY ALWAYS PAYS. THIS PARTICULARLY APPLIES FOR BUYING AND SELLING SECOND-HAND TRAILERS. WE DEVELOPED OUR SECOND-HAND TRAILER SERVICE TO OFFER YOU THE OPTIMUM TRAILER FOR ANY PRICE EXPECTATION.



KRONE Used specialises in the trade of these products and offers a wide variety of used trailers at competitive prices. And if you are looking for an expert partner regarding finance: KRONE Finance provides individual packages with first class rates.



# **MKRONE** USED



# KRONE USED SALES WORLDWIDE

- KRONE Used Padborg, Denmark

   Jacob Viereck jv@scanbalt.dk, Phone +4529161412
   Claus Schmidt
  - cs@scanbalt.dk, Phone +4530806062
- 2. KRONE Used, Werlte, Germany
   Andre Holz, andre.holz@krone.de, Phone +49(0)5951209335
- KRONE Used, Moscow, Russia
   Andrey Schilkov

ags@polupricep.com, Phone +7(926) 9001888

4. KRONE Used, Kiev, Ukraine

Igor Gordienko igor.gordienko@krone.ua, Phone +380980277656

- 5. KRONE Used, Budapest, Hungary
  - László Komáromi, laszlo.komaromi@krone-trailer.com Phone +36307741946





# 6. KRONE Used, Vilnius, Lithuania

Vytautas V. Dubniakovas vytas@trailer.lt, Phone +37065031700

# 7. KRONE Used, Maardu, Estonia

Mati Tiiter mati@scanbalttrailer.ee, Phone +3725054599

# 8. KRONE Used, Riga, Latvia

Agris Dumins agris.dumins@trailer.lv, Phone +37126483369

# 9. KRONE Used, Chassieu, France

Alain Meynard alain.meynard@krone-france.com Phone +33(0)625796710

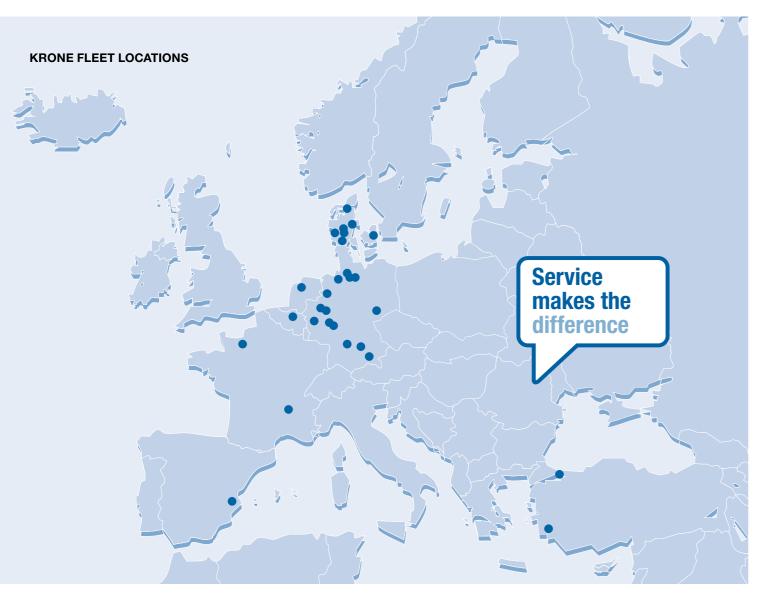
# 10. KRONE Used, La Muela Zaragoza, Spain:

Rosa Asin Andres rosaasin@krone.com, Phone +34976149294

# KEY ADVANTAGES AT A GLANCE

- Always more than 2,000 vehicles in stock.
- ) Purchase and sale of second hand trailers
- at fair market value.
- Many years of experience.
- Proven product quality direct from the manufacturer.
- End-to-end 'paperwork' handling including customs documentation etc.
- ) Transfer to ports world wide.
- Transported in packages of three and four.
- Financing at favourable rates with bespoke
- packages by KRONE Finance.

# WELCOME TO THE WORLD OF EFFICIENCY AND FLEXIBILITY. KRONE FLEET.



ARE YOU LOOKING FOR EXCELLENT QUALITY, MINIMUM LIFE CYCLE COSTS AND FULLY DE-VELOPED PRACTICAL SOLUTIONS? BRIEFLY: ARE YOU LOOKING FOR TRAILERS THAT SET BENCHMARKS? THEN WITH KRONE FLEET, YOU HAVE MADE THE RIGHT CHOICE. OUR IN-NOVATIVE COMPANY BOASTS A COMPREHENSIVE AND VERSATILE PRODUCT PORTFOLIO INCLUDING MODERN RENTAL CONCEPTS - ALL UNDER THE GLOBAL KRONE BRAND.

## Become a part of KRONE Fleet Europe!

Use our integrated depot network and work with a competent team with many years of experience in the chassis, trailer and swap box body sector. On the following pages, we highlight the benefits of KRONE Fleet and welcome you to our European-wide fleet of almost 9,000 units.





# **THE KRONE Fleet Europe**

#### Dänemark:

9400 Noerresyndby 7000 Vejle 6700 Esbjerg 2630 Tastrup 8381 Muldelstrup 7000 Frederica 6330 Padborg

## Deutschland:

21129 Hamburg 21220 Seevetal 59368 Werne 47228 Duisburg 60314 Frankfurt 74360 Ilsfeld 90451 Nuremberg 21107 Hamburg 28197 Bremen 45891 Gelsenkirchen 53117 Bonn 63128 Dietzenbach 85551 Kirchheim/Munich 06237 Leipzig

Niederlande: 3089 KC Rotterdam

Frankreich: 76600 Le Havre 69800 Saint Priest/Lyon Spanien: 46910 Alfafar/Valencia

**Türkei:** Tire/near to Izmir

Istanbul

**Belgien:** 

2030 Antwerp



As a strong partner, KRONE Fleet combines under one roof, the former company L.T. Rental - a trailer rental professional - and the company Paul Günther - a chassis rental specialist with 25 years experience in Europe.

# Complete trailer, chassis and swap body trailers from a single source.

True to the motto "Easy & flexible rent", we help our customers to reduce their capital commitment, assist with fleet management and add flexibility. In other words: KRONE Fleet reduces your operating risks and maintains residual value with the help of modern and cost-effective fleet equipment.

# Always close to you at home and throughout Europe.

KRONE Fleet combines the benefits of personalised service within a regional network with the ever –increasing resources of KRONE's premium manufacturing on a global scale.

# Rental vehicles and cross-border support of the highest quality.

The rental market is steadily expanding. At the same time, the demand for rental trailers direct from a premium manufacturer also grows. KRONE Fleet customers can always rely on our expert cross-border customer care and the support of a premium trailer manufacturer.

# Always prominent – thanks to our service: Your Total Cost of Ownership.

Our new rental service provides tailored solutions in an increasingly competitive market. Our goal is to make life easy for our customers while always aiming to reduce Total Cost of Ownership.

# Good consultation does not take time. It saves time.

Every customer is different. And every customer therefore has individual requirements for consultation and service. At KRONE Fleet, we are convinced that efficient and viable solutions can only be achieved through personal consultation at a partnership level. In other words: We focus on individual care so that you can focus completely on your core business.

EASY & FLEXIBLE RENT. KRONE FLEET.

- Excellent quality.
- Fully developed practical solutions.
- Extensive product portfolio.
- Modern rental concepts.
- Integrated depot network.
- Complete trailer, chassis and Swap body trailers from a single source.
- KRONE Fleet increases your operating efficiencywith modern and cost-effective fleet equipment.

# THE FUTURE IS PRODUCED HERE. THE CLAIM OF THE KRONE COMPANY.

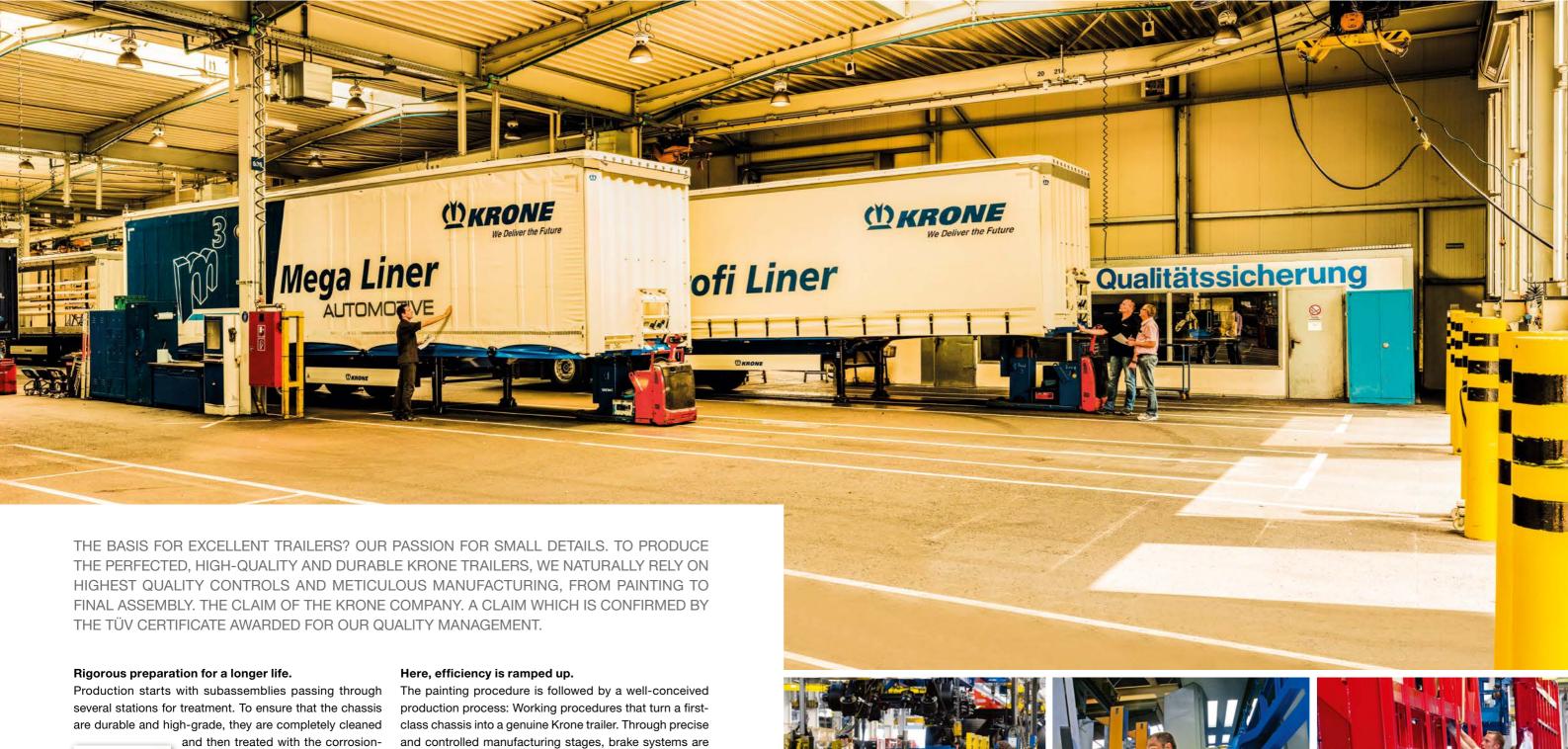
QUALITY IS NOT OBTAINED BY CHANCE. DURING TRAILER MANUFACTURING, THE KRONE COMPANY TAKES CARE TO USE MOST STATE-OF-THE-ART TECHNOLOGIES, EXACT PRODUC-TION PROCESSES, AND RELIABLE TEST PROCEDURES TO ENSURE THAT EVEN TODAY, YOU CAN DRIVE TOMORROW'S TRAILER.





QUALITY AND PRODUCTION STAFF AND TRAINING CUSTOMER CENTRE "TRAILER FORUM" DELIVERY CENTRE "TRAILER POINT" PHILOSOPHY AND SUSTAINABILITY

# THE BASIS FOR SUCCESSFUL TRAILERS. QUALITY AND PRODUCTION.





resistant KRONE KTL plus powder painting. And this painting is really durable: with a long time guarantee.

assembled, wheels are attached, the body is mounted and all controls are tested to ensure that every new trailer meets the highest Krone standard.



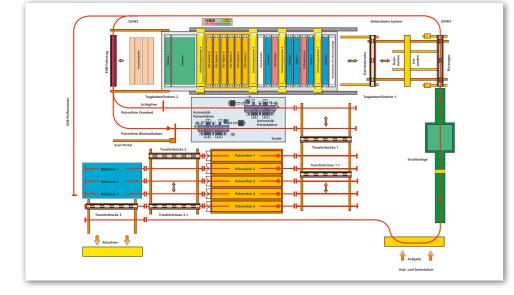
# QUALITY AND PRODUCTION

# QUALITY AND PRODUCTION.



# A silvery gleam pure and clean.

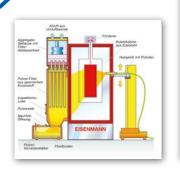
All components including chassis and sub assembly ,modules' are passed through an automated treatment process. The first station is the shot blasting unit. Every minute, 4.5 tons of ferrosat blasting grains (diameter between 1 and 1.6 mm) are blasted by 10 turbines to remove dirt, rust, and all imperfections are removed from the chassis and components.



### Dipped.

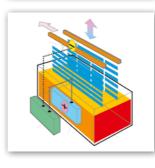
The steel blasting is followed by the cathodic-dip (KTL) painting process, which is wellknown and proven in the automobile industry. In different dipping steps, chassis and modules are degreased, zinc- / iron-phosphated and finally immersed in a DC bath; here, the lead-free automotive-quality final coating is applied, which guarantees optimum corrosion protection.







Kathodische Tauchlackierung KTL



The electrostatic KTL coating process requires complete paint immersion and creates a negative pole, while the immersion bath is positively charged by means of anodes. This electro static reaction achieves an even coating and at the same time ensures that the paint reaches every conceivable surface and angle of the component part.

# Hard all around.

Afterwards the powder coating takes place. The final coating powder is baked on at temperatures of about 230 °C and is uniformly applied on the entire primed surface. This ensures the highest stonechipping resistance and high gloss finish.

### Overview of assembly procedures.



The brake system (equipped with state-of-the-art electronic technology) is assembled.



The axles are mounted directly with the correct wheel alignment.



The wheels are attached and adjusted with the exact torque.



The flatbed continues along an assembly line in our plant.



The floor is screwed on with self-tapping screws. This ensures that the high quality paint finish is not damaged.

# QUALITY AND PRODUCTION



Then superstructure assembly starts with fixing the front wall.



The roof frames are mounted.



The side curtain is inserted.



Detailed final inspection and functional tests.



# THE FUTURE IS TEAMWORK. THE KRONE STAFF AND TRAINING.



### Your career with Krone

An organisation is only as good as the people who work for it. In this sense, the people who work for KRONE have a common objective: to find the optimum solution for every transport requirement.

Fahrzeugwerk Bernard Krone GmbH employs over 650 people who develop, build and market KRONE trailers. Initial and ongoing training is a key element of our corporate philosophy and enables our employees to work to the highest quality on our customers' behalf.

# Because the future starts today.

Many young people complete their apprenticeships at KRONE across a wide range of technical and commercial roles. Therefore, the company not only makes an important contribution to the youth employment market,

but also with intensive training from the start, creates management potential for the future.

# The basis of quality: a well-founded apprenticeship.

The classic entry-level for a career at KRONE is an apprenticeship in an industrial, technical or commercial role that is approved by the German Chamber of Commerce. This may be as a specialist for metal technologies, operational technology electronics, industrial mechanics, technical product design, industrial administration, specialist for warehouse logistics or IT for system integration: The apprenticeship is the foundation for later work in the vehicle plant.

In parallel, KRONE also offers dual degree courses. For 6 semesters, students acquire in-depth knowledge from their academic studies, including the wider business arena, at the Institute for Dual Studies (IDS) at Osnabrück Technical. KRONE offers the following subjects in association with IDS: Business management (B.A.), business engineering (B.Eng.), business information technology (B.Sc.) and mechanical engineering (B.Eng.).

### First rung of the ladder.

KRONE offers a demanding trainee programme for new graduates. The programme aims to recruit the best qualified young managers into the company. Over a two-year training period, our departmental and corporate trainees are employed in a variety of ways and receive comprehensive ongoing training.

There is also the option to join KRONE without first completing a training programme. Whether on the managerial route with HR responsibility, as a specialist with techni-

# STAFF AND TRAINING

cal responsibility or as a project manager, thanks to our above-average growth record, we are in regular need of experts.

## Like to know more?

It goes without saying that KRONE also supports and promotes existing employees in a variety of ways. Various advanced training opportunities are positively received, while , training requirements and courses are structured for our employees to take into account their personal and professional development potential. Here, the human resources department is available at any time for consultation and employee support.

# THE MEETING PLACE FOR THE TRANSPORT **BUSINESS.** THE KRONE TRAILER FORUM.



able on the internet under www.krone-trailer.com.





# CUSTOMER CENTRE "TRAILER FORUM"

# DON'T WAIT – JUST START. THE DELIVERY CENTRE TRAILER POINT.





# **DELIVERY CENTRE "TRAILER POINT"**

# BECAUSE OUR TARGET IS THE FUTURE. PHILOSOPHY AND SUSTAINABILITY.



A COMPANY WHO DELIVERS THE FUTURE, TAKES RESPONSIBILITY FOR TOMORROW'S WORLD. ENVIRONMENTAL PROCTECTION IS A VITAL TOPIC FOR THE TRANSPORT BUSINESS, AND IS ALSO UNDERLINED BY THE VDA, THE ASSOCIATION OF THE GERMAN AUTOMOTIVE INDUSTRY. FOR MANY YEARS, KRONE HAS FOCUSED ON SUSTAINABILITY DURING TRAILER PRODUCTION. WE THEREFORE NOT ONLY DEVELOP OUR FUTURE PROJECTS AND SET NEW STANDARDS IN TERMS OF ECOLOGY AND ECONOMY BUT FOCUS ALSO ON SUSTAINABILITY AT EVERY PRODUCTION STAGE.

# Considering the

# environment right from the start.

A sense of responsibility creates ability. KRONE proved this over ten years ago with the then most modern spraypainting facility in Europe. The paint process using environmentally-friendly powder coating was also so perfect in an ecological sense that the then Minister President of Lower Saxony personally opened the paint treatment facility. The company has since remained true to these high standards and has introduced an environmental management system certified in accordance with ISO 14001:2005, for the development, manufacture and sale of commercial vehicles. In addition, KRONE actively participates in the climate protection programme GoGreen, which neutralises the production of  $CO_2$  gases through environmental projects. We have rigorously reduced emissions of  $CO_2$ , and also noise and odour emissions as well as minimising waste such as used oil, solvents, scrap steel and waste water. Furthermore, all of our buildings are optimized for low energy consumption using heat and energy recovery systems. This means we keep energy and water consumption to a minimum and also use energy and heat recovery systems. These environmental values are followed up in detail and determined for each unit to achieve optimum sustainability.

#### Products which protect the future.

Next to customer proximity and attention to market requirements, we also focus on environmental aspects in particularly when designing our products.



We also pay attention to sustainability with all KRONE products. On the one hand this concerns transport efficiency because the more you can load the fewer trailers need to be used in order to transport goods from A to B. In addition, this affects the chassis and the assembly. Here there is not only great savings potential through reduction of air and rolling resistance but also by means of reducing noise pollution. For example, the noise created by tyres rolling and trucks being loaded is reduced by our box bodies, especially the Duoplex box body technology for high isolation. Therefore, there is less energy consumption. Also components such as suspension and lights are considered so that our trailers make the most efficient use of energy wherever possible.

# PHILOSOPHY AND SUSTAINABILITY



# We have declared top

## priority for tomorrow's world.

KRONE has also set itself high environmental goals for the coming years. For this reason, it is not just our environmental commissioners who ensure detailed documentation of the all the relevant data, the management also takes a personal interest in the environmental issues at KRONE. And this attention to detail adds up to significant advantages: more economy, more environment protection, and a better future.

# PHILOSOPHY AND SUSTAINABILITY.



### Innovations.

We are the technological driving force and pacesetter in our industry. We develop outstanding products and solutions which include milestones in harvesting technology for the trailer industry. We work continuously to improve the environmental sustainability of our vehicles and machinery taking customer requirements into account and offering on the market products which are as environmentally friendly as possible.

In the future, we will also be involved with shaping technical progress with the goal of sustainable development. As economy and ecology work hand in hand.





# Environmental Objectives.

Our goals are defined from our responsibility and awareness that our natural surroundings must be protected on an ongoing basis. In addition, we would like to provide our services in the best possible way in terms of customer care so that the burden on the environment is reduced, resources are protected and our customers are completely satisfied.

With this in mind we have defined the following goals:

- Use of renewable and recyclable raw materials.
- Co-operation with suppliers who have similar commitment to the environment.
- Use of renewable energy sources.
- Reduced CO<sub>2</sub> emissions in production.
- Innovations that further stimulate environmental ideas

### **Energy Efficiency.**

Power generation in large factories has been linked to heavy losses in energy since the heat generated remains mostly unused. Since the early 90's the vehicle plant of Bernard Krone GmbH at Werlte has been treading the path of energy efficiency.

The basic economical and ecological ideas of heat-controlled operations are to fully use the production heat generated on site. Amongst other things this can be used for heating hot water or as processed heat for operations. Heat generated during production is recycled back into heating system in our factory.

Input: 2,1 MW

Output: ) 834 KW electrical output ) 988 KW heat output

Thus the technology of power-heat combination not only generates power, KRONE's cogeneration unit converts 87% of primary energy input into electric power and heat energy. This results in a much higher fuel utilisation than would be the case with separate power and heat generation. In the end, this saves considerable quantities of energy and emissions.

PHILOSOPHY AND SUSTAINABILITY

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# **GREEN PAGES**

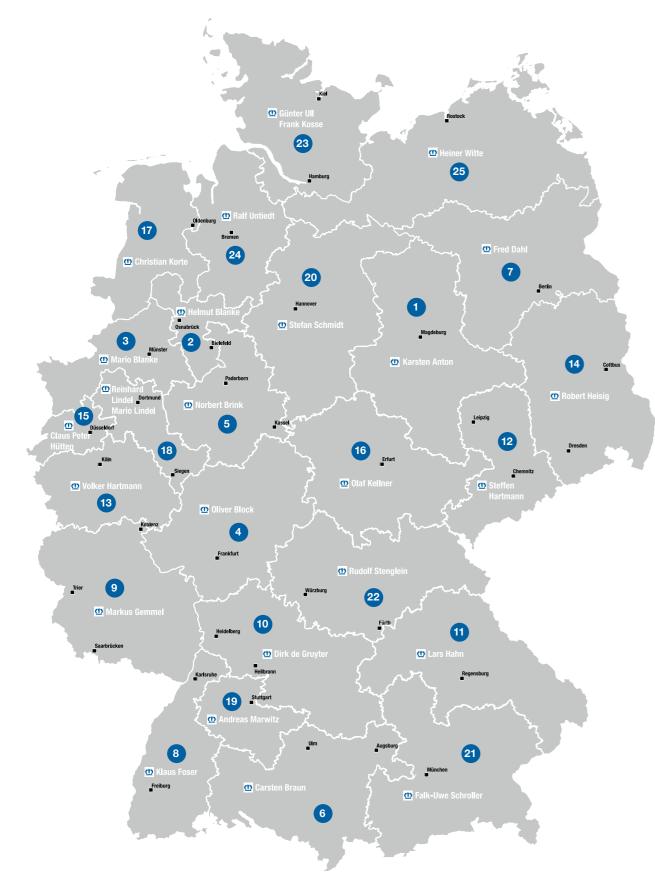
The internet presence of KRONE on the topics of philosophy & sustainability.

We deliver the future - that is not only a slogan but this is practised every day by KRONE. The future, sustainability and efficiency belong together. Only those who pursue these objectives can compete



in the future. This attitude also underlines the web pages of KRONE. In the sections on philosophy & sustainability numerous useful pieces of information about economic ecology are offered. Thereby, development in the transportation industry is addressed because environmental protection increasingly gains importance in daily practice. In order to lead by example, KRONE documents its innovations, its own quality standards and its environmental objectives transparently for his customers and business partners. Several certificates can also be seen here, confirming the high standards of KRONE in environmental management and CO<sub>g</sub> reduction.

# QUALITY NEEDS STRONG PARTNERS. THE KRONE SALES ORGANISATION IN GERMANY.



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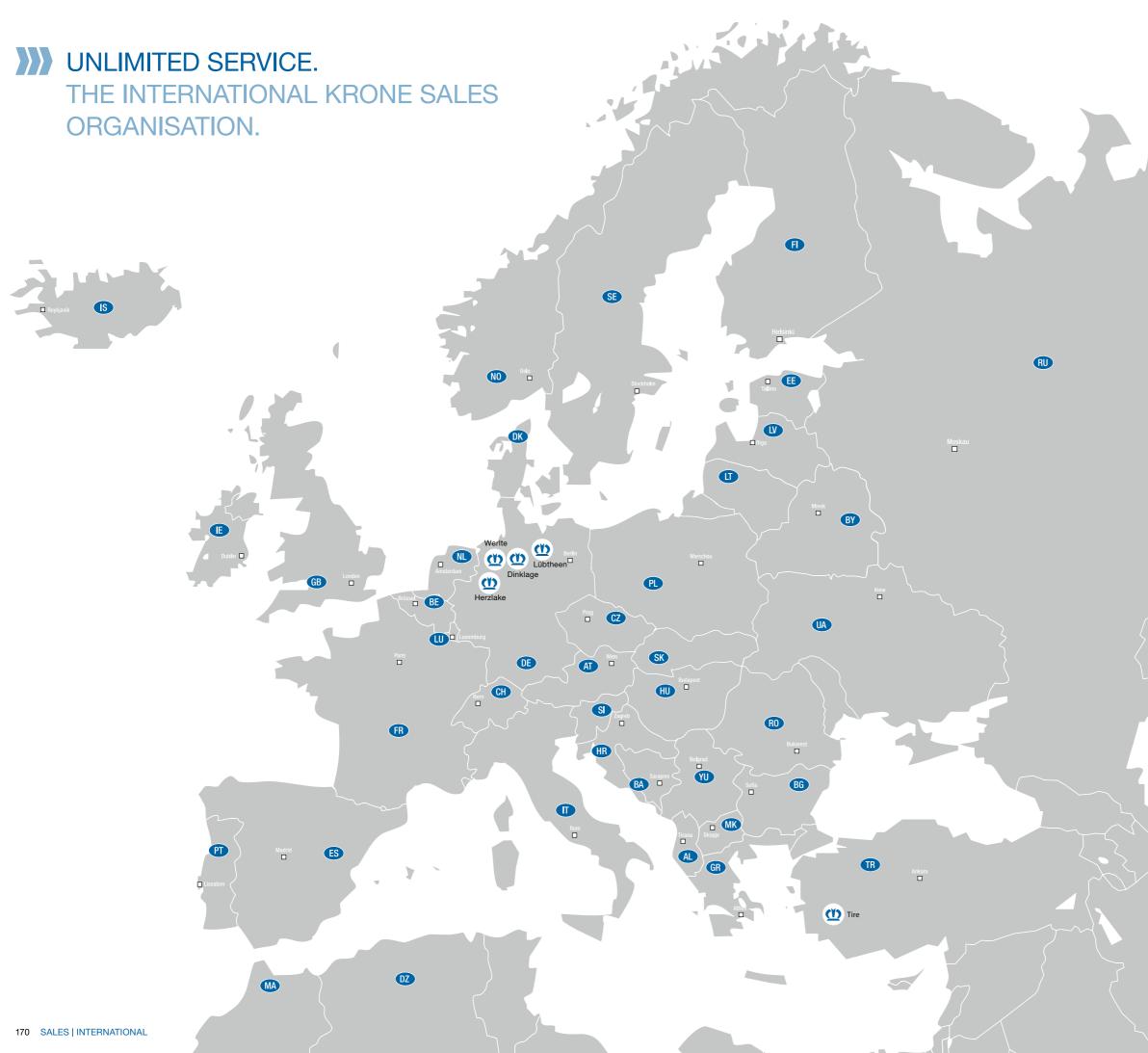
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Swap systems Brüggen Oberflächen- und Systemlieferant GmbH Boschstraße 4 49770 Herzlake / Germany

Box body semitrailers Brüggen Komponenten GmbH

Geschwister-Scholl-Straße 15 19249 Lübtheen / Germany

# Trailer axles

gigant - Trenkamp & Gehle GmbH Märschendorfer Straße 42 49413 Dinklage / Germany

# Distance of the semitrailers

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TYPE	PROFI LINER	PROFI LINER	MEGA LINER	COIL LINER	PAPER LINER		DRY LINER		CITY LINER COOL
		MULTI STEEL BW				TYPE STG	TYPE STP	TYPE LI	
King pin load	12,000 kg	12,000 kg	12,000 kg	12,000 kg	12,000 kg	12,000 kg	12,000 kg	12,000 kg	12,000 kg
Axle load (technically possible)	27,000 kg	27,000 kg	27,000 kg	27,000 kg	27,000 kg	27,000 kg	27,000 kg	27,000 kg	10,000 kg
Allowable gross weight (techni- cally possible)	39,000 kg	39,000 kg	39,000 kg	39,000 kg	39,000 kg	39,000 kg	39,000 kg	39,000 kg	22,000 kg
Tare weight, approx.	6,160 kg	6,840 kg	6,470 kg	7,120 kg	6,750 kg	7,980 kg	7,690 kg	6,800 kg	
without cooling unit									ca, 6,500 kg
Payload (technically possible)	32,480 kg	32,160 kg	32,530 kg	31,880 kg	32,250 kg	31,020 kg	31,310 kg	32,200 kg	15,500 kg
5th wheel height (unloaded)	1,050–1,170 mm	1,150 mm	975 mm	1,050-1,170 mm	1,050–1,170 mm	1,150 mm	1,150 mm	1,150 mm	1,130 mm
Axle spread	1,310 mm	1,310 mm	1,310 mm	1,310 mm	1,310 mm	1,310 mm	1,310 mm	1,310 mm	
Neck height	125 mm	125 mm	80 mm	152 mm	125 mm	100 mm	100 mm	100 mm	105 mm
Side access length	13,620 mm	13,620 mm	13,620 mm	13,620 mm	13,620 mm	13,620 mm	13,620 mm	13,620 mm	10,845mm
Side acces width	2,480 mm	2,480 mm	2,480 mm	2,480 mm	2,480 mm	2,480 mm	2,480 mm	2,470 mm	2,470 mm
Side access height	2,575–2,800 mm		2,860 mm (3,000 mm)*	2,575-2,800 mm	2,575-2,800 mm	2,725 mm	2,725 mm	2,715 mm	2,550 mm
Outside width	2,550 mm	2,550 mm	2,550 mm	2,550 mm	2,550 mm	2,550 mm	2,550 mm	2,550 mm	2,600 mm
Tare weight in Ultra-Design, approx.	5,630 kg		5,950 kg	6,900 kg	5,970 kg				
*= Internal height suitable for automotive	boxes								
	ТҮРЕ		OL LINER PLEX STEEL						

	ITPE		DUOPLEX		
		STANDARD	DOUBLE DECK	MEAT HANG	MULTI TEMP
King pin load		12,000 kg	12,000 kg	12,000 kg	12,000 kg
Axle load (technically pos	sible)	27,000 kg	27,000 kg	27,000 kg	27,000 kg
Allowable gross weight (te possible)	echnically	39,000 kg	39,000 kg	39,000 kg	39,000 kg
Tare weight					
without cooling unit,	approx,	7,600 kg	7,810 kg	9,150 kg	7,820 kg
with cooling unit and	tank, approx,	8,360 kg	8,580 kg	9,950 kg	8,850 kg
5th wheel height (unloade	d)	1,150 mm	1,150 mm	1,150 mm	1,150 mm
Axle spread		1,310 mm	1,310 mm	1,310 mm	1,310 mm
Internal length		13,310 mm	13,310 mm	13,310 mm	13,310 mm
Internal width		2,470 mm	2,470 mm	2,470 mm	2,470 mm
Internal height		2,650 mm	2,650 mm	2,530 mm	2,650 mm
External width		2,600 mm	2,600 mm	2,600 mm	2,600 mm
Panel thicknesses Fr	ont wall	50 mm	50 mm	50 mm	50 mm
Si	de walls	60 mm	60 mm	60 mm	60 mm
Ro	oof	85 mm	85 mm	135 mm	85 mm
Do	oors	90 mm	90 mm	90 mm	90 mm
Fl	oor	125 mm	125 mm	125 mm	125 mm

Dimensions and weights for standard units

# TECHNICAL DATA.

MODEL		BOX LINER		BOX LINER				
	TYPE SDC 27 eLT3	TYPE SDC 27 eLTU4	TYPE SDC 27 eLTU5 PLUS	TYPE SDC 27 eLTU6	TYP SZC 18 eL20'	TYPE SZC 20 eL20'	TYPE SDC 27 eL40'	TYPE SDC 27 eL45'
King pin load	14,000 kg	14,000 kg	14,000 kg	14,000 kg	12,000 kg	12,000 kg	16,000 kg	14,000 kg
Axle load (technically possible)	27,000 kg	27,000 kg	27,000 kg	27,000 kg	18,000 kg	20,000 kg	27,000 kg	27,000 kg
Allowable gross weight (technically possible)	41,000 kg	41,000 kg	41,000 kg	41,000 kg	30,000 kg	32,000 kg	43,000 kg	41,000 kg
Tare weight, approx.	4,950 kg	5,100 kg	5,750 kg	5,900 kg	3,050 kg	3,360 kg	4,900 kg	5,000 kg
Payload (technically possible)	36,050 kg	35,900 kg	35,250 kg	35,100 kg	26,950 kg	28,640 kg	38,100 kg	36,000 kg
Axle spread	1,410/1,310 mm	1,410/1,310 mm	1,410/1,310 mm	1,410 / 1,310 mm	1,310 mm	1,810 mm	1,410/1,310 mm	1,410/1,310 mm
Neck height	130 mm	130 mm	130 mm	130 mm	147 mm	147 mm	200 mm	70 mm
5th wheel height, unloaded	1,100 mm	1,100 mm	1,100 mm	1,130 mm	1,150 mm	1,150 mm	1,150 mm	1,050 mm
Distance kingpin - rear end	11,414 mm	11,414 mm	12,000 mm	12,000 mm	6,750 mm	6,750 mm	11,275 mm	11,275 mm
(45' short tunnel)			12,760 mm	12,760 mm				12,000 mm
(45' long tunnel)			12,000 mm	12,000 mm				12,000 mm

	MODEL		PROFI CARRIER		PRC	FI CARRIER		MEGA CARRIER	
		CENTRAL-AXLE ZZP 18 eL2-CS	2-AXLE AZP 18 eL2-CS	2-AXLE AZP 18 eLN2-CS	3-AXLE ADP 27 eL2-CS	3-AXLE ADP 27 eLN2-CS	CENTRAL-AXLE ZZP 18 zLT2-CS	2-AXLE AZP 18 zLNT2-CS	3-AXLE ADP 27 ZLNT2-CS
Axle load		18,000 kg	18,000 kg	18,000 kg	24,000 kg	24,000 kg	18,000 kg	18,000 kg	24,000 kg
Allowable gross weight		18,000 kg	18,000 kg	18,000 kg	24,000 kg	24,000 kg	18,000 kg	18,000 kg	24,000 kg
Tare weight		4,830 kg	4,170 kg	4,330 kg	5,240 kg	5,420 kg	5,310 kg	4,980 kg	5,520 kg
Axle spread		1,810 mm	4,870 mm	4,870 mm	5,235 mm	5,135 mm	1,810 mm	5,385 mm	5,135 mm
Neck height			140 mm	70 mm	140 mm	70 mm		70 mm	70 mm
Side access lenght		7,300 mm	7,100 mm	7,100 mm	8,200 mm	8,200 mm	8,200 mm	8,200 mm	8,200 mm
Side access height		2,675 mm	2,600 mm	2,650 mm (385/65 R 22,5) 2,725 mm (385/55 R 22,5)	2,600 mm	2,650 mm (385/65 R 22,5) 2,725 mm (385/55 R 22,5)	2,975 mm	2,925 mm	2,950 mm
Travel height, unloaded		1,210 mm	1,300 mm	1,220 mm (385/65 R 22,5) 1,160 mm (385/55 R 22,5)	1,300 mm	1,220 mm (385/65 R 22,5) 1,160 mm (385/55 R 22,5)	915 mm	955 mm	935 mm
Drawbar length		2,250 mm	2,200 mm	2,200 mm	2,000 mm	1,850 mm	2,250 mm	2,500 mm	2,000 mm
Total length		9,620 mm	9,035 mm	9,035 mm	10,370 mm	10,230 mm	10,520 mm	10,135 mm	10,370 mm

Dimensions and weights for standard units

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