



 FEIL GmbH
Customized storage
and transport systems

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PEOPLE · IDEAS · PRODUCTS

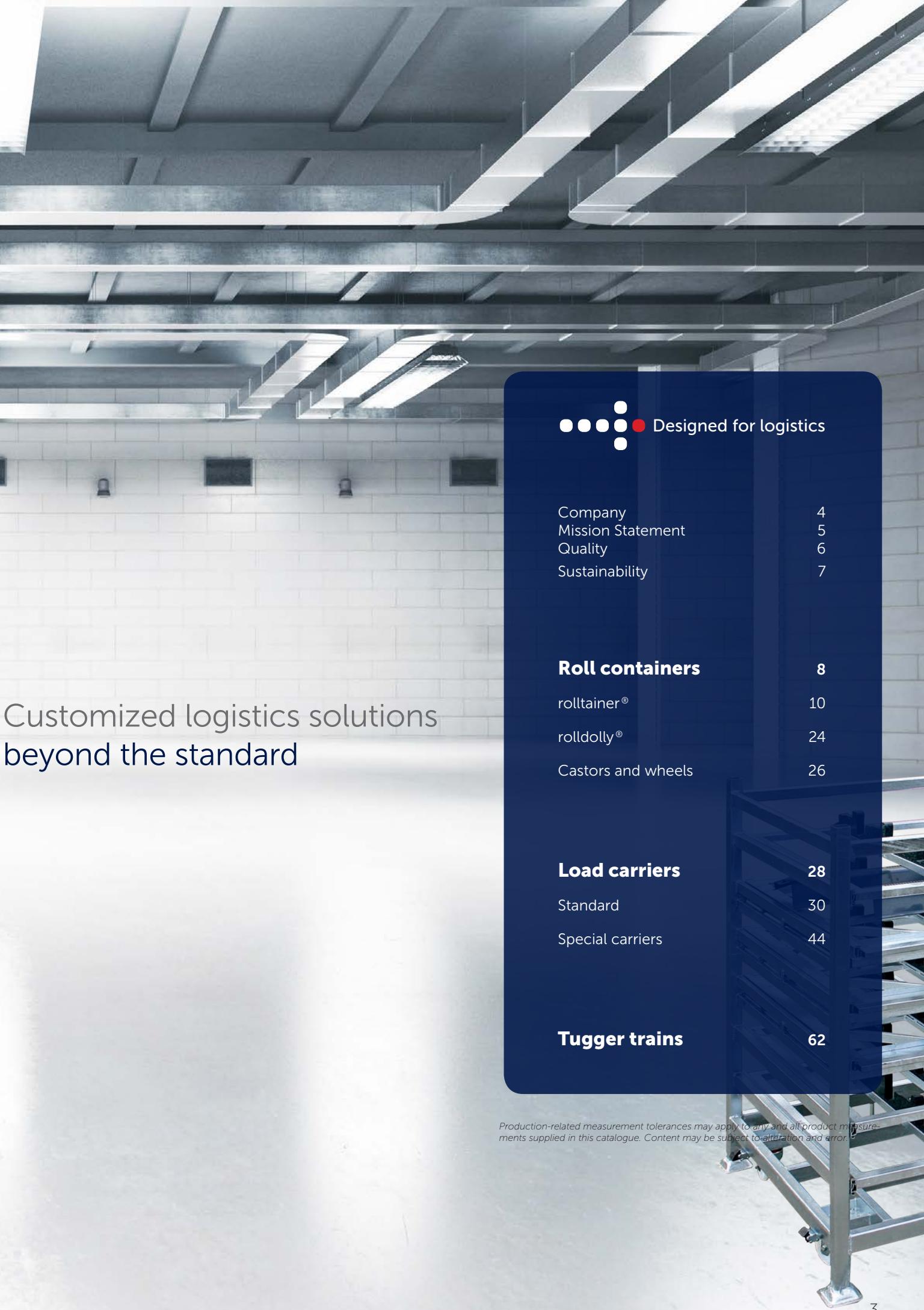


Company · Roll Containers · Load Carriers · Tugger Trains



A NOSTA Group company





Designed for logistics

Customized logistics solutions beyond the standard

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Production-related measurement tolerances may apply to any and all product measurements supplied in this catalogue. Content may be subject to alteration and error.



For over 70 years, FEIL has been developing and producing customized logistics solutions. That's a lot of experience, which we leverage to help our clients meet the challenges of our fast-paced world. For all the new technologies, automation and digitization this world brings us, we know that it's people who create solutions and people who need them.

Every FEIL project starts with a thorough exploration and understanding of our client's logistical challenge. Based on this understanding we develop new concepts and find the solution that best meets your needs. The bedrock for our solutions are high-quality standards and products, results of years of logistics experience. We will continue to combine experience and innovation to create the exceptional for you.

Büren, 2019

Bernd Dallek



WHAT WE DO

INNOVATIVE SOLUTIONS

- We design logistics
- We develop solutions
- We create true value for our clients through expert service, on-site consultations, and custom products
- High-end standard products are the basis for innovative solutions that meet specific client requirements
- We provide high-quality products that increase logistics efficiency in our clients' daily operations

MISSION STATEMENT

CREATING THE EXCEPTIONAL

Our vision

1

"We believe in a future in which people use standards to create the exceptional."

Digitization and automation will afford us the necessary time: we will employ new technologies and artificial intelligence for standard services and mass production so that we can focus on the exceptional.

Our mission

2

"It is our mission to take logistics personally and improve it from the inside out."

Taking logistics personally means that we focus on our client and meet their specific needs and requirements. This applies to all clients, both in-house and external. We improve logistics from the inside out. Intralogistics is where our roots lie. It's the starting point for our concepts – including solutions that go beyond the individual business.



Our values

3

"We value people, ideas and products."

That is why we measure everything we do on whether it harmonized with this triad: Did we deliver value to our client and our own people? Do our ideas lead to innovative solutions? And do our products fulfill the promise of a solution?

Only when we can answer all three questions in the affirmative have we met our goals.

4

We have no doubt that we will continue to meet these goals and be successful in what we do. As part of a solid, family-owned business, we look confidently towards the future. We know that every one of us contributes to our joint success. That is why we value every member of our FEIL family. We respect and support one another. This is our way of making our logistics vision come true:

"...a future in which people use standards to create the exceptional."

QUALITY

WE GET YOUR BUSINESS MOVING



Our product and process expertise – built over decades of industry experience – is our competitive advantage. We require all our suppliers to meet the strict FEIL quality standards.

Our quality assurance covers the entire production chain and includes visits to our partners' manufacturing facilities, on-site product approval, extensive material tests, and close coordination with clients and suppliers.



High-precision, robust, heavy-duty

All FEIL solutions – standard, customized, or system – are of consistently high quality. Our quality standards apply to every step, from design to construction and production. That's how we've operated for the past 70 years. And we continue to do so today – with state-of-the-art CAD workstations and cutting-edge construction technology. All steps, from the first consultation to construction, prototyping and final delivery, are supported by a strict monitoring and control system. This enables us to create customized material logistics solutions that withstand the test of time.

Profitability made in Germany

FEIL transport systems provide client-specific solutions from construction to color and configuration. Made just for you, these solutions fit in seamlessly with your operations, increasing efficiency in your flow of goods and your material logistics. FEIL's exacting quality standards will help you move more with your business.

SUSTAINABILITY

FOR OUR PLANET

We take great pride in working exclusively with high-quality materials and have done so for decades. This forward-thinking approach allows us to recover recyclable materials from FEIL products that have reached the end of their lifecycle. Plastic sheets, flat irons and wheels can be recycled and become components for new FEIL products. However, we will only reuse products from our own production to ensure that our high quality standards are met.

Iron

Inlaid iron reinforcements are dismantled. Zinc-coated iron parts can be reused, resulting in a recycling rate of up to 70 percent.

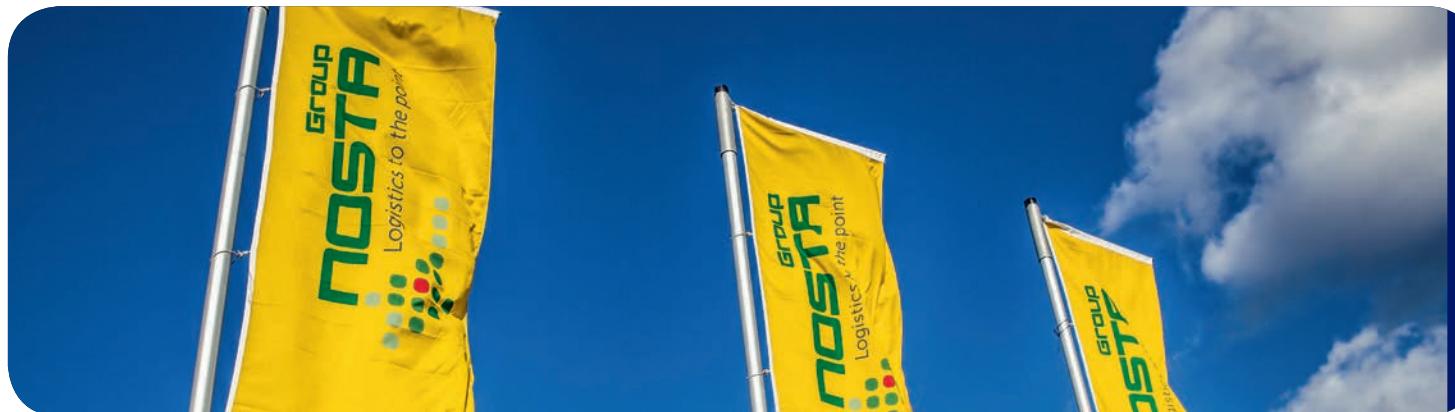
Wheels and castors

Depending on the level of stress, FEIL wheels and castors have a standard lifecycle of approx. 10 years. We check dismantled wheels according to a set of defined criteria for their recycling suitability.

Plastic sheets

Dismantled plastic sheets are ground into pellets, which are used to produce new dollies. This process saves 2,4 kilograms of CO₂ emissions per dolly.

By dispensing with disposable packaging, such as foils and cardboard, the use of load carriers in logistics generally makes an important contribution to climate protection.



NETZWERK

QUALITÄT FÜR UNSERE KUNDEN

A staff of more than 750. Over 40 offices throughout Europe. Successful logistics industry players for 40 years. NOSTA Group is a family-managed full-service logistics services provider with global operations. NOSTA Group has been supplying high-end logistics services across the value chain since 1978.

FEIL GmbH is part of NOSTA Group. We leverage our combined wealth of logistics expertise and our client-focused portfolio to serve you. Smart solutions, e.g. for load carrier management, provide excellent process optimization and cost-saving potential that we'd be only too happy to outline for you.

rolltainer®

nestainer®

rolldolly®

tainerjack®

mobibloc®

FEIL
••••• **Designed for logistics**





Roll containers. So everything simply runs more smoothly.

FEIL roll containers are the flexible solution to quickly and efficiently optimise your flow of goods. Thanks to their stable construction, smooth-running castors and exemplary flexibility, they can be adapted to suit all requirements and are easy to handle: Insert the side guards, fasten and get your goods rolling.

With a wide variety of models and full range of accessories, FEIL roll containers provide the ideal solution for every application.

FEIL roll containers boast the following features:

- 500 kg load capacity
- Long service life
- Individual colour schemes
- Name embossing for personalized identification
- Quiet
- Low empty weight
- Easy to clean
- Efficient to use
- Barcode fields
- RFID-capable





rolltainer® 2-sided



rolltainer® 2-sided with
shelf



rolltainer® 3-sided



rolltainer® 3-sided with
shelf

Available in dimensions 680 x 810 mm and 725 x 810 mm with usable heights of 1350 mm, 1450 mm and 1650 mm.
Other sizes available on request.

FEIL standard rolltainers®.

Ranging from the standard model to anti-theft fitting, with a slanted floor or made entirely from metal – FEIL rolltainers® allow for a multitude of individualized solutions and can be adjusted in detail to suit your particular requirements. They can be personalized with plastic panels and shelves available in almost all RAL colours and logo or name embossed on the front edges.





*rolltainer® 4-sided
with a folding and swivelling front side*



*rolltainer® 4-sided
with a folding and swivelling front side*



*rolltainer® 4-sided
with a swivelling front side*

rolltainer®



*rolltainer® 4-sided
with a swivelling front side*



*rolltainer® 4-sided
with shelves*



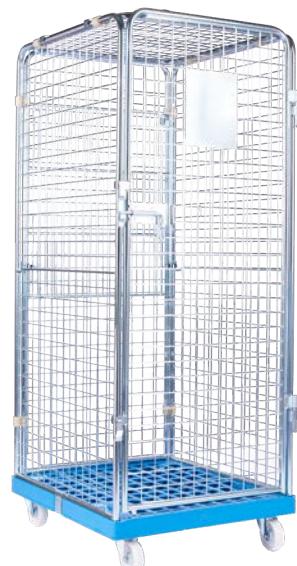
*rolltainer® 4-sided
with shelves*



rolltainer® Anti-theft
with wire mesh shelf



rolltainer® Anti-theft
with wire mesh shelves



rolltainer® Anti-theft
to customer specifications

FEIL anti-theft rolltainers®.

Available in dimensions 725 x 810 mm • Construction: 1795 mm total height*, other heights and models available, 50 x 50 mm mesh, with locking latch • Options: writing board/document pouch

Protection against
quick access to
high-value goods



Anti-theft rolltainer
with two swivelling door halves



Anti-theft rolltainer
open top



Anti-theft rolltainer
open

* for a castor diameter of 108 mm



rolltainer® Anti-theft
suitable for standardised boxes



rolltainer® Anti-theft



rolltainer® Anti-theft

We move more...

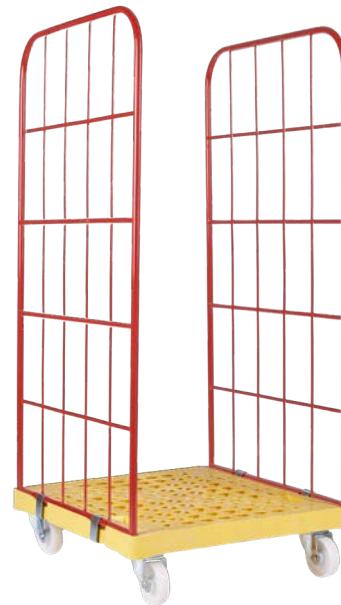
A large, blurred background image showing numerous rolltainer units stacked in a warehouse or storage facility, creating a sense of depth and volume.



*Rolltainer special solution
695 x 810 mm, 2-sided
with clamping grid*



*Rolltainer special solution
695 x 810 mm, 2-sided
with shelves*



*Rolltainer
780 x 790 mm, 2-sided
Side guards with 2-part clamping*

FEIL rolltainer® special solutions.

Available in the following dimensions: 695 x 810 mm, 760 x 810 mm, 780 x 790 mm • Clamping grid: Usable height of 1500 mm, rear panel either attachable with screws or by hanging



*Rolltainer with external panels to screen goods from view and protect against dirt and theft
Doors on the front side hinged or swivelling*



*Roll rack
with open long side*



Sales rolltainer
with front wall price list



rolltainer® transport trolley with variable
shelves and safety handles



Hygiene rolltainer

HACCP compliant model

FEIL hygiene rolltainers are especially designed for use in the foods sector with a completely enclosed hygienic wheeled base with a particularly easy-to-clean smooth surface. Side guards and chassis components available in rust-free stainless steel on request. The maintenance-free castors retain their free-running properties even when cleaned frequently.



Metal rolltainer
3-sided, with shelves
600 x 600 x 1650 mm



rolltainer® metal 2-sided with shelves 820 x 1260 x 1790 mm

FEIL metal rolltainers®.

Dimensions and designs to be agreed



rolltainer® metal Anti-theft 800 x 1200 x 1790 mm



rolltainer® metal picking trolley 550 x 1300 x 1750 mm

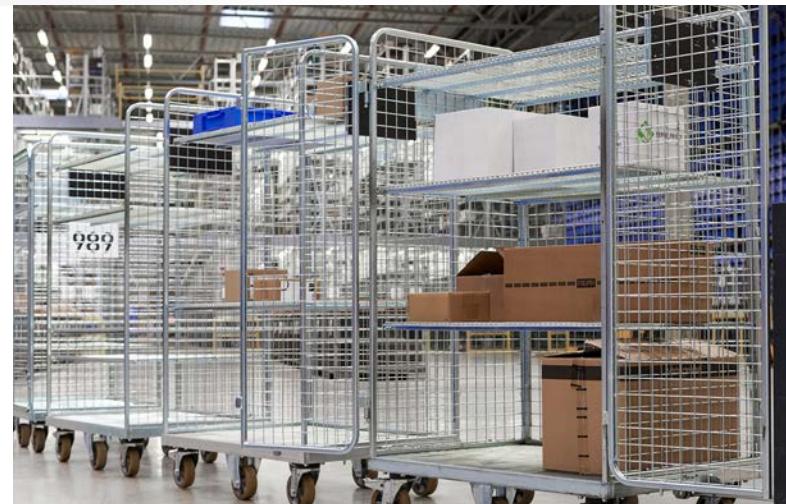


FEIL coupling rolltainers®.



Rolltainer metal with coupling

FEIL rolltainers with coupling and drawbar are a highly efficient means of transport for universal application. They can be adapted to meet specific needs – for plumbing wholesale, hospitals or individual industries. Heavy-duty wheels are optionally available for the reliable transportation of particularly heavy loads. The rolltainers can be equipped with shelves to further optimise logistic processes. More accessories available on request.





nestainer® Ergo 2-sided with integrated spring technology



Space requirements:
3 standard rolltainers
= 10 nested rolltainers



FEIL metal nestainers®.

Dimensions and designs variable

The nestable FEIL rolltainers are called nestainers®. With a robust construction and optimized ergonomics, the nestainer Ergo series save a lot of space when empty and are incredibly easy to use to make everyday operations that much simpler. Practical accessories such as shelves and 3-sided or 4-sided constructions are also available



Nestainer Ergo
2-sided, with shelves



Nestainer Ergo
3-sided, with shelves



nestainer® Ergo 3-sided
with a swivelling back side



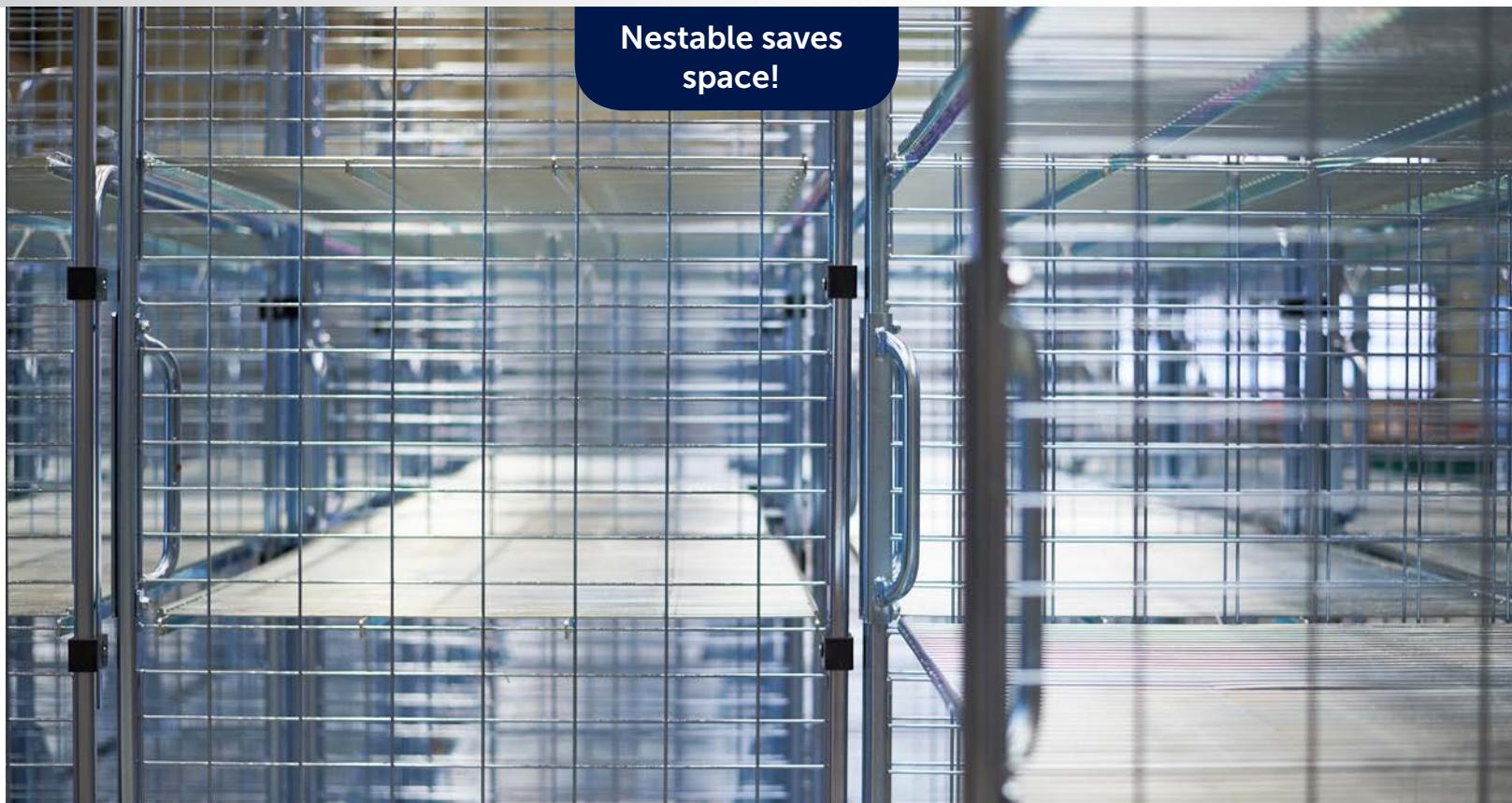
EURO anti-theft nestainer

800 x 1200 mm x usable height ~ 1550/total height 1810 mm with Ø 125 mm castors, with folding shelves

nestainer®

FEIL metal anti-theft nestainers®.

Nestable saves
space!





nestainer® 3-sided
type 1450 with one plastic sandwich shelf



nestainer® 3-sided
type 1550 with one metal shelf



nestainer® 3-sided
type 1550 with two plastic sandwich shelf

FEIL nestainers® with plastic sandwich floor

The FEIL nestainer® is the consistent further development of nestable roll-tainers made entirely from steel. With their special features and exemplary ease of use, they meet the rising requirements in many fields of use. Thanks to the use of plastic folding shelves and a metal chassis, our nestainer is extremely smooth running and quiet so that customers can even be supplied even in pedestrian zones or residential areas in the early hours of the morning without producing noise pollution.

The advantages at a glance:

- Low empty weight
High load capacity
- Easy handling
- Reduced noise pollution in relation to the prescribed target values
- Reduced susceptibility to damage
- Individual fittings
- Optimal recognition thanks to colour selection and property marking
- Environmentally friendly (recyclable)
- Attractive price-performance ratio
- HACCP compliant model





Anti-theft nestainer® with steel base and/or plastic base and shelves, optionally in longer version to accommodate Euro containers





Plastic shelves are available in various RAL colours and, upon request, with name embossing.



Plastic shelf
load capacity 150 kg / 200 kg,
various RAL colours,
name embossing optional



Plastic shelf
halved version,
load capacity 100 kg,
various RAL colours



Wire mesh shelf
load capacity 150 kg,
galvanically zinc-plated

FEIL rolltainer® accessories.



Disposable cover
protects your goods from dust and dirt



Dust or thermal cover
with zippers, stitched for easy handling



Fabric lashing straps
with wire hook and cam buckle,
red, yellow or blue,
optional sewn-in elastic band



Rubber lashing straps
- 2 wire hooks
- 1 plate hook and 1 plate ratchet
- 1 wire hook and 1 wire ratchet

tainerjack® – The revolution in roll container transport

It can happen in the blink of an eye during loading and unloading – just a second of wavering attention and a hand can get stuck between two containers. This is not only painful but often also means time off sick. FEIL has tackled this problem with its innovation

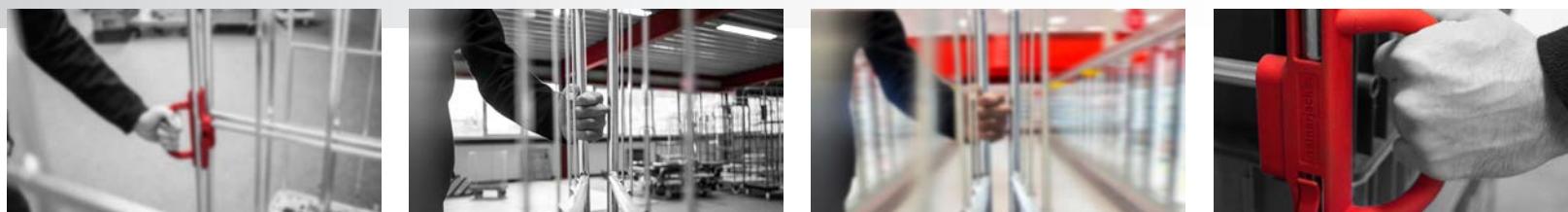
– the tainerjack®, registered as a separate trademark. tainerjack® is an ergonomic handle made of plastic and especially designed to prevent hands from getting squashed. This protection is ideal for all industries in which roll containers play an important part.

With its ergonomic design, tainerjack® is highly comfortable and easy to use.



For your safety

tainerjack®



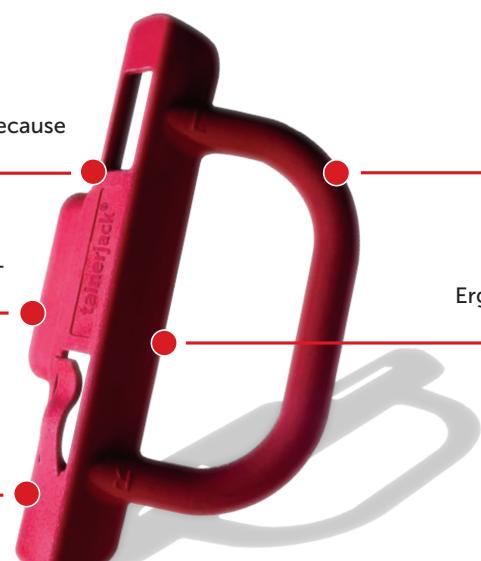
Comfortable and easy handling because
of ergonomic design

Innovation increasing
workplace safety

High quality, made of special rein-
forced plastic

Ergonomically designed
and safe

Accident prevention innovation





FEIL rolldollies®

The chassis for 400 x 600 European standard boxes



FAVORIT rolldolly
with closed base



CLASSIC rolldolly
with open base



Although the rolldolly from FEIL has increased movement and mobility in many industries for a long while already, our goal is to continue to improve it further, both technically and optically, and to optimise its lifespan. The result is impressive in all respects:

- PP for use from -6° to +60°C
- PE for use from -30° to +60°C
- Complies with HACCP (FAVORIT model)
- 100% recyclable
- Name and logo embossing on the front side optional
- 4 barcode fields
- RFID-capable
- Dimensions 410 x 610 mm (external)
- Recess for all European standard boxes 400 x 600 mm (other dimensions available on request)

- Loading capacity 300 kg
- Uniformly stackable with stacking recesses
- Safety edge for stacking upside down after cleaning
- Models with closed floors for high hygiene requirements (FAVORIT model)
- Warp-resistant
- Choice of colours
- Wheel assembly with 4 fastening screws per wheel
- Available with 4 swivel castors or 2 swivel castors and 2 fixed castors
- The right wheel for every use: PP/PA/PU

rolldolly®



rolldolly® CLASSIC with coupling



Type 108/125 PP

Wheel size	108 mm/125 mm
Material	PP – neutral polypropylene
Use	-6°C to +60°C
Bearing	roller bearing
Wheel axle	bolted
Thread protection	yes
Hole pattern	60 x 80 mm
Load capacity	200 kg
Models	swivel castor/swivel castor stop/fixed castor



FEIL roll range

Reaching your destination without noise and effort.



Type 108/125 PA

Wheel size	108 mm/125 mm
Material	PA – blue polyamide
Use	-30°C to +60°C
Bearing	roller bearing
Wheel axle	bolted
Thread protection	yes
Hole pattern	60 x 80 mm
Load capacity	200 kg
Specific features	steel bushing in wheel
Models	swivel castor/swivel castor stop/fixed castor/integrated wheels



Type 100 TPE

Wheel size	100 mm
Material	hub – PP with grey polyurethane coating – „no-trace”
Use	-6°C to +60°C
Bearing	roller bearing
Wheel axle	bolted
Thread protection	yes
Hole pattern	60 x 80 mm
Load capacity	80 kg
Specific features	noise reduction below 55 dBA
Models	swivel castor/fixed castor



Type 100/125 elastic

Wheel size	100 mm/125 mm
Material	hub – polyamide with grey elastic – „no-trace”
Use	-6°C to +60°C
Bearing	1 ball bearing
Wheel axle	bolted
Thread protection	yes
Hole pattern	60 x 80 mm
Load capacity	150 kg/200 kg
Specific features	ball bearings/noise reduction below 55 dBA
Models	swivel castor/swivel castor stop/fixed castor/integrated wheels



Type 100 elastic

Wheel size	100 mm
Material	hub – aluminium with grey elastic – „no-trace”
Use	-6°C to +60°C
Bearing	2 ball bearings
Wheel axle	bolted
Thread protection	no
Hole pattern	60 x 80 mm/80 x 105 mm
Load capacity	200 kg
Specific features	ball bearings/noise reduction below 55 dBA
Models	swivel castor/swivel castor stop/fixed castor/integrated wheels



Type 100 PU

Wheel size	100 mm
Material	hub – aluminium with brown polyurethane coating – „no-trace”
Use	-30°C to +60°C
Bearing	2 ball bearings
Wheel axle	bolted
Thread protection	no
Hole pattern	60 x 80 mm/80 x 105 mm
Load capacity	250 kg
Specific features	ball bearings/noise reduction below 55 dBA
Models	swivel castor/swivel castor stop/fixed castor/integrated wheels



Type 100/125 PU

Wheel size	125 mm
Material	hub – PA with red polyurethane coating – „no-trace”
Use	-30°C to +60°C
Bearing	roller bearing
Wheel axle	bolted
Thread protection	yes
Hole pattern	60 x 80 mm
Load capacity	200 kg
Specific features	noise reduction below 60 dBA
Models	swivel castor/swivel castor stop/fixed castor





FEIL load carriers are designed and implemented in close collaboration with our customers making them ideally suited for goods in transit. The load carriers are manufactured in the required quantity at our production facility only after successful test runs with prototypes.





Load carriers. The bodyguards of parts logistics.

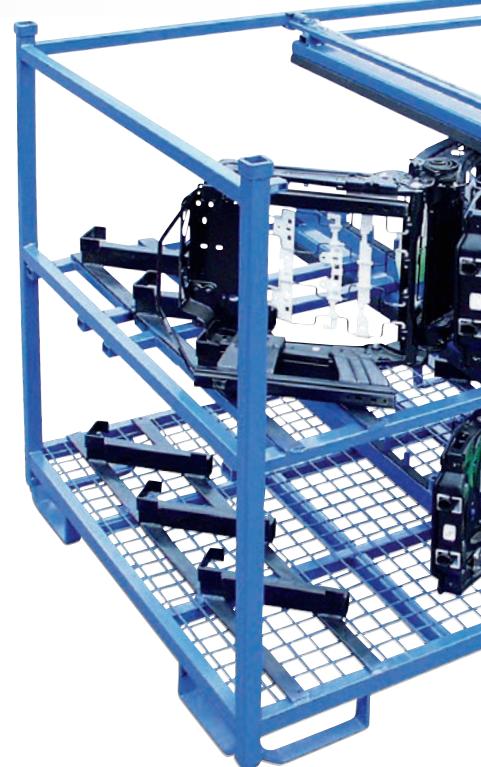
Whether for storage, delivery or internal logistics, FEIL load carriers are the ideal solution for the individual phases of the production and supply chains in a multitude of industries. Thanks to their stable and intelligent construction, they ensure optimal handling both during transport and at individual workplaces. Furthermore, they provide the best protection for goods in transit and improve the safety of your employees.

The load carriers from FEIL meet the highest quality requirements. Made with hand-picked materials and components, they are designed for a long service life, heavy loads and smooth operation throughout. In contrast to many other systems such as cardboard or wood

packaging, FEIL load carriers combine a multitude of different advantages.

The advantages at a glance:

- Optimized packing density
- Ideally adjusted racks
- Considerable freight cost savings
- Long service life
- Easy and safe handling
- Easy loading and unloading
- Space saving at the assembly station
- No packaging waste, no disposal costs



FEIL post pallets are multi-stackable load carriers used for cost-saving modular block storage tailored to requirements. Torsion-resistant base units and plug-in pipes of different lengths ensure the optimal usage of space and height. FEIL post pallets can be effortlessly adapted to changed requirements at any time.

The post pallets are assembled on the basis of a simple connector system without dowelled joints, ensuring optimal stability at all times. All components are zinc-plated for weather-resistance and high durability. FEIL post pallets are particularly suitable for Euro and industrial pallets and can be stacked up to a total height of 6 metres in warehouses and up to 4 metres in open-air storage areas.

The advantages at a glance:

- Multi-stackable load carriers
- Optimal use of space and height
- Mobile storage system
- High level of stability
- Adaptable for changing requirements
- Connector system for trouble-free construction
- No dowelling required



Post pallet

FEIL post pallet.

The cost-effective block storage with a system.

Post pallet





FEIL sewer pipe racks. Easy storage and picking.

Using this FEIL special pallet system, a wide range of pipes (KG, SML, HT, PE, etc.) can be stored with minimum space requirements in multiple pallets stacked on top of each other. Once the complete packages have been simply lifted into the empty pallet using a forklift truck and the transport packaging straps have been opened, the individual pipes can be easily removed lengthwise at any time.

Technical details

Dimensions of 3 - 5 m	1300 mm internal measurement x 2400 mm for pipe lengths
of 6 m	1300 mm internal measurement x 3500 mm for a pipe length
of 2 m	1300 mm internal measurement x 1000 mm for a pipe length
Usable height	with a grid floor 1300 mm, variable upon request

Many advantages at a glance:

- No ground anchoring required
- Mobile installation possible, no assembly costs
- Low space requirement thanks to the stackability of opened packing units
- Loading using a forklift possible, no manual reloading)
- All pipe lengths can be stored in only than two or three different pallet sizes
- Vertical support tubes for space-saving stacking when empty
- Low transport costs for empty pallets
- Easy stacking thanks to self-centring circular bases
- All-purpose (can also be used for wooden palisades etc.)

FEIL mobibloc® is a universal storage system which can be used as a mobile pallet rack, as a pallet box for block storage or even directly as a load carrier, e.g. for large volume goods. It does not need to be secured to the floor and can therefore be installed on any level and stable surface with little effort.

FEIL mobibloc® is easy to handle, provides an increase in capacity at any time and is thus ideally suited for quickly bridging short and medium-term capacity shortages. Pallets with seasonal goods, pressure-sensitive block stacking goods consisting of identical items or containers

(casks, drinks, tyres, etc.) can thus be stored without a problem. Thanks to the star-shaped frame bracing, FEIL mobibloc® is not just limited to Euro pallets but can also be used for other pallet sizes.

FEIL mobibloc®. Flexible block storage and load carrying in one.





FEIL mobibloc®
Base frame with 4 vertical support tubes



Base frames can be stacked to save
space for transportation

mobibloc®

Technical details

Dimensions size	1200 x 2150 mm external measurement = module
Shelf width	1900 mm
Usable height no surcharge)	1200 mm = Standard (any other usable height up to a max. of 2100 mm can be freely chosen with
Load capacity	Max. 3 t per level, depending on the actual usable height
Stackability	4 for usable height of 1200 mm, otherwise more or less depending on the usable height selected,
Model	max. upper loading level in a hall 6000 mm, in an open-air storage area 4000 mm multi-stackable twin load carrier, consisting of an inherently stable, torsion-resistant base carrier and
the	4 pluggable vertical support tubes per base carrier which are adjusted in length (height) according to
Surfaces	actual requirements, 2 guides for the forklift per long side phosphatised base carrier, blue powder-coated RAL 5010 or galvanized with surcharge, vertical support tubes usually galvanized



Lattice box conforming to UIC 435-3



Half height lattice box

FEIL standard lattice boxes.



Foldable lattice box





Foldable lattice box



High loading capacity and load dimensions according to customer requirements



Sheet metal container



Sheet metal container



FEIL standard lattice stacking frames.



Galvanised lattice stacking frame,
high loading capacity and load



Galvanised lattice stacking frame,
folded up



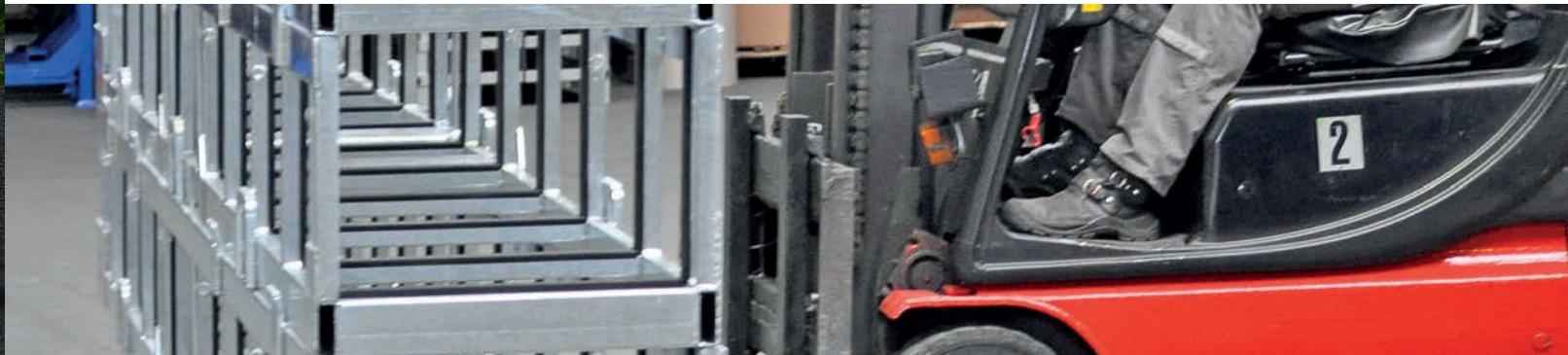
Standard lattice stacking frame

FEIL long goods frames. Perfect for your block or picking storage.

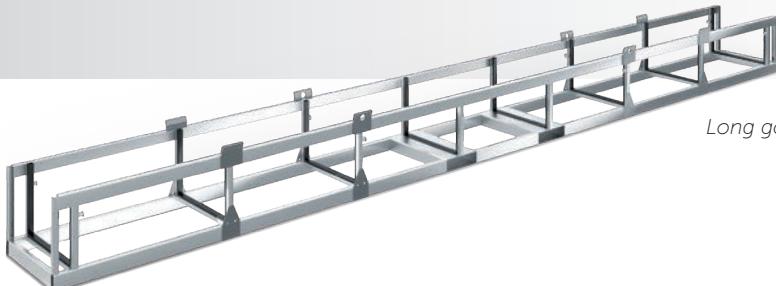
FEIL long goods frames are especially designed for the storage and transportation of unstable cargoes such as special section tubes, steel bars and sectional aluminium or plastic. The stable framework constructions and the galvanised surfaces ensure excellent stability, durability and weather resistance. In addition, maximum transport security is guaranteed thanks to the infeed channel.

The stackable, craneable and/or nestable models can be combined with optional equipment such as isolation pads for the storage of sensitive goods.

Sizes between 3000 mm and 12000 mm are deliverable as standard. We are happy to manufacture suitable frames, individual models and large quantities for you upon request.



FEIL long goods frame special load carriers.



Long goods frame



Long goods frame, nested



Long goods frame, stacked



Insulation pallet, stackable



Technical details

Loading capacity 500 kg per pallet.
Load dependent on the desired usable height.
Stackable to a maximum of 3 high (for a usable height of 2200 mm)
or 4 high (for a usable height of 1600 mm).

FEIL standard insulation pallets.





FEIL standard textile rolling bases.



Textile rolling base, collapsible



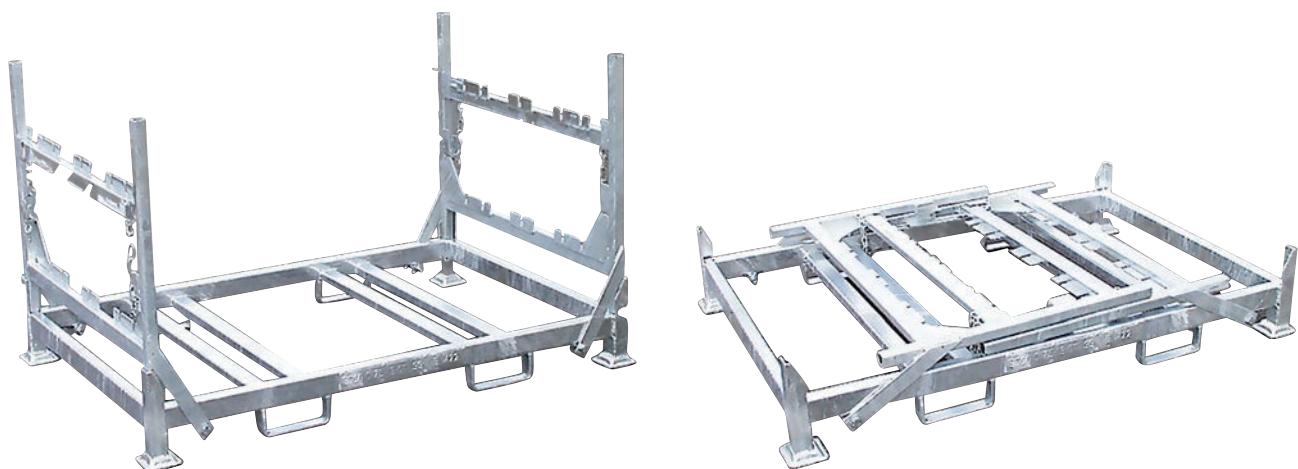
Film roll frame
hanging roll storage



Film roll frame, collapsible,
stackable, rigid and nestable models also available

FEIL film roll frame special load carriers.





Film roll frame, collapsible, for multiple rolls, individually adjustable



Horizontal in plane storage or sheet metal prism

FEIL film roll frame special load carriers.



Film roll frame, collapsible



Braked or unbraked unwinding device, adapted to suit customer requirements



Rolling frame, collapsible





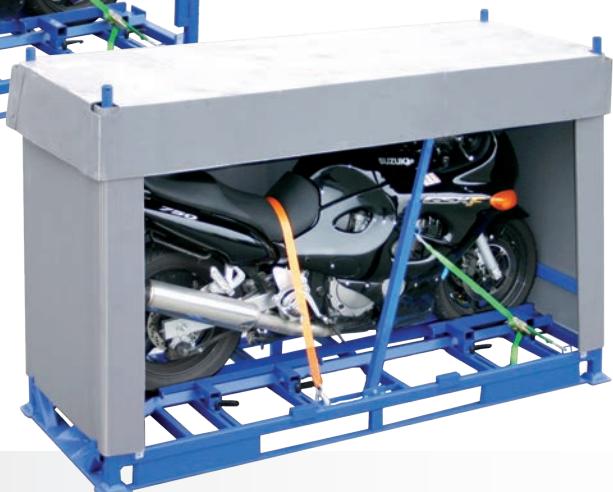
FEIL motorcycle special load carriers.

Motorcycle load carrier loaded, ready for loading and folded up for space-saving empty transportation.





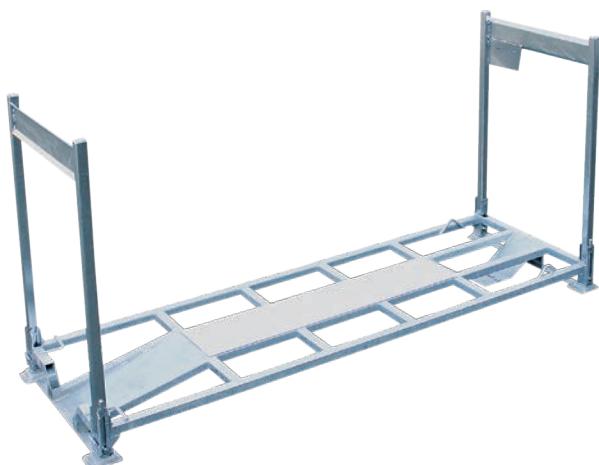
Motorcycle load carrier



Motorcycle load carrier, closed



Motorcycle load carrier, folded up



Galvanised load carrier, collapsed



From the first sketch to the finished product.



We focus on the individual requirements of our customers from the very beginning. More complex applications often require customized solutions rather than standard systems.

All load carriers need to be integrated into the operational processes of our customers and their internal logistics in the best possible way. Our objective is to optimise your material flow and find intelligent solutions to, ultimately, increase the efficiency of your processes. We visualize our proposed solution to you using a 3D model and, together, work out the full solution to achieve the maximum efficiency.

FEIL solutions offer you more

- Customized solutions based on a comprehensive process analysis
- Visualization with 3D CAD models
- Extensive test and fine-tuning processes working with prototypes until we produce the perfect solution
- Solutions based on decades of experience in the industry and our wide-ranging competence in logistics
- Optimized packing density for your components, reducing transport costs significantly
- Special load carriers for fully automated processes
- The best protection for your transport goods
- High level of quality assurance to support every project



CONSULTING

Storage, delivery and internal logistics – we are happy to make our decades of experience and expertise in these fields available to your company. Our consulting service is centred on providing efficient logistics and maximum profitability by identifying the most appropriate standard or customized solution.



ANALYSIS

We take a close look at the situation together with you. You know exactly the internal and external logistics requirements you have, and we know how to make processes more efficient. Working in close coordination with you, we analyse the different stages of the production and supply chains and coordinate them in the best possible way with FEIL systems solutions.



DEVELOPMENT

Based on this analysis, our designers get to work and visualize their proposals using 3D CAD models. Once we have chosen the right model, we make prototypes and test their functionality together with you at your production facilities. We fine-tune the prototypes to perfection to arrive at your customized solution.



PRODUCTION

Quality is one of our top priorities. Production of your customized solution commences once we have mutually approved series production. We exclusively use high-quality, long-lasting materials. The rigorous ongoing monitoring of our production processes ensures the highest levels of precision and quality. And we will continue to support you as your reliable partner once your customized solution is in place.

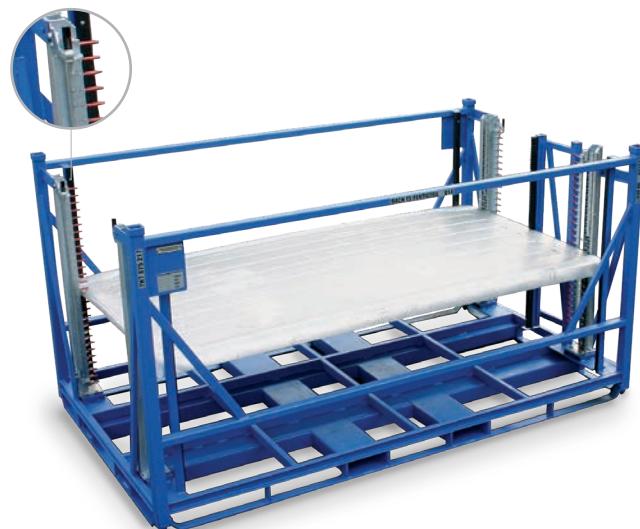
Efficient logistics processes. We listen, then design, then build.



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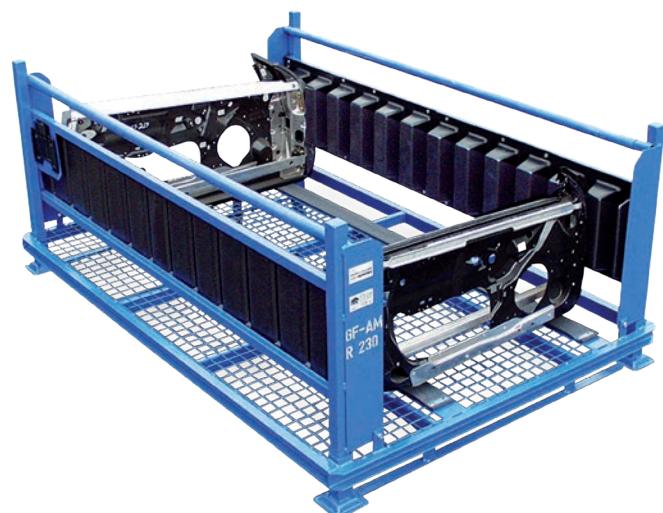


Transport rack for vehicle roofs
with handle columns for robot loading and unloading

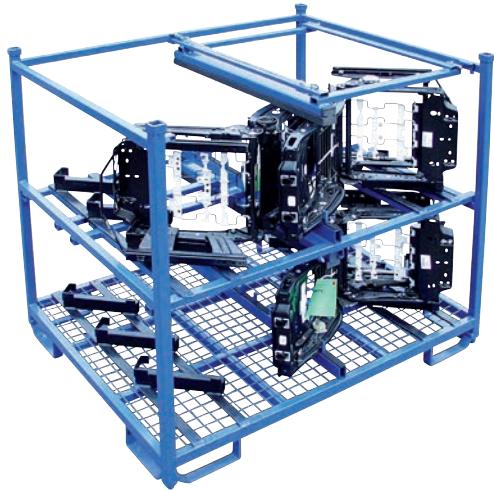
FEIL automotive/agricultural and construction machinery



Special load carrier for doors



High packing density, stackable, ergonomic



Transport rack for car seats



Special load carrier for vehicle seats



Seat „kit“ for back seats and front seats in one frame



Transport rack for instrument panels



Transport box for moulded skins

FEIL automotive, agricultural and construction machinery



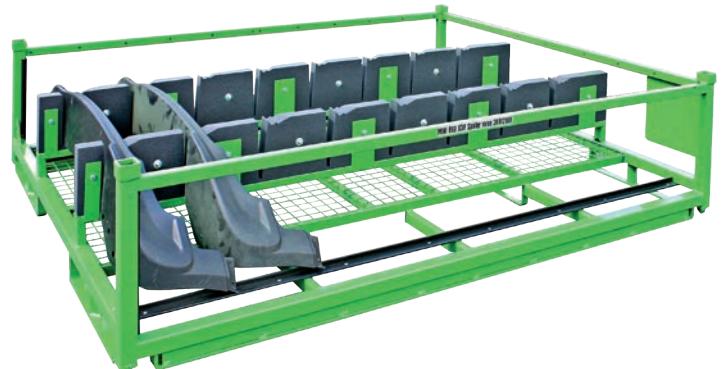
Special load carrier for moulded skins



Nested one inside another to save space
and opening upwards



Drawer rack for rocker panels
in contour receptacles made from PE



Special load carrier for spoilers
in foam receptacles



Drawer rack for rocker panels



Drawer rack for rocker panels,
open



Special load carrier for sensitive parts, fully closed



FEIL automotive, agricultural and construction machinery



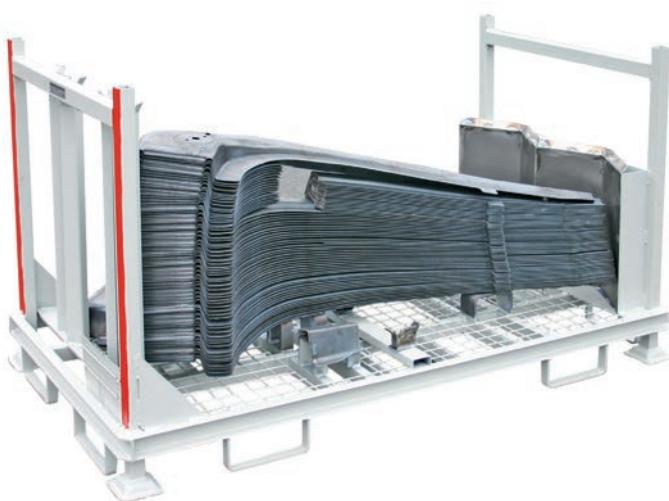
Hollow chamber profile compartments for sensitive body parts



JIS frame for interior parts



Special load carrier for centre consoles, open



Robot frame for A, B or C columns



Special load carrier for mudguards in their unfinished state



Transport rack for air conditioning systems



*Transport rack for air conditioning systems,
open*

FEIL automotive, agricultural and construction machinery



*Transport rack for automotive air conditioning
systems*



*Transport rack for automotive air conditioning
systems,
folded*



Transport rack for automotive interior cladding



Special load carrier for crankshafts on anti-slip coated plastic trays



Storage and transport systems for steering wheels



Storage and transport box for steering wheels, open



Flexibly usable frame for cut sheet metal



Transport racks for engine mounts

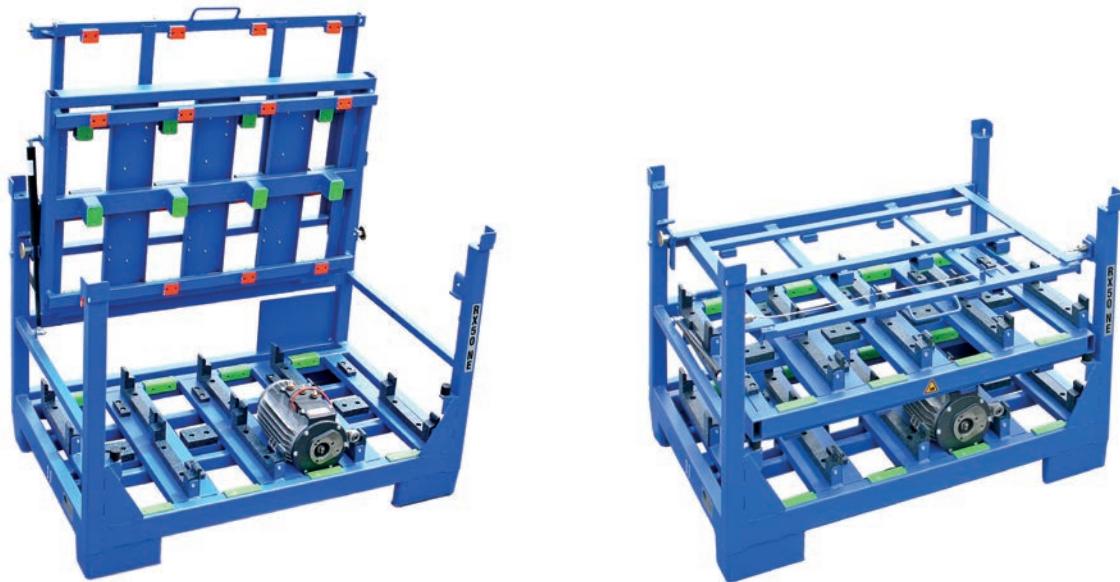
FEIL automotive, agricultural and construction machinery



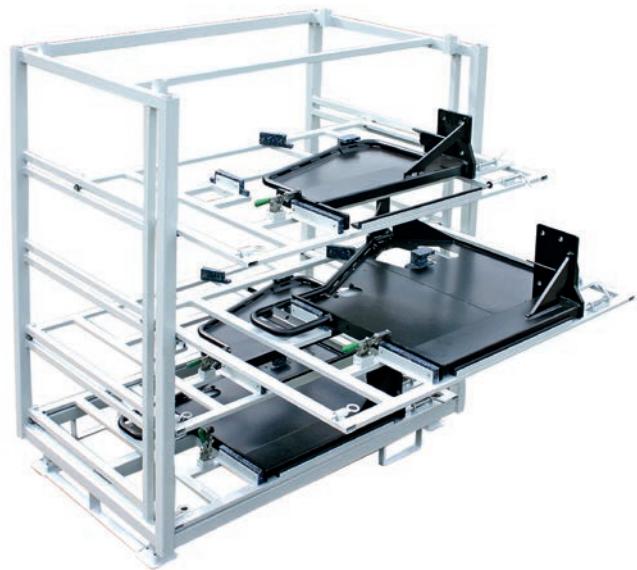
Bag frame for various automotive parts,
with cover



Transport racks for various
glass panels



Special load carrier for hydraulic machinery for industrial trucks



Drawer rack for tank supports





Special load carrier for coverings for railway carriages

FEIL automotiv, agricultural and construction machinery



*Transport rack for large enclosure panels
for agricultural machinery*



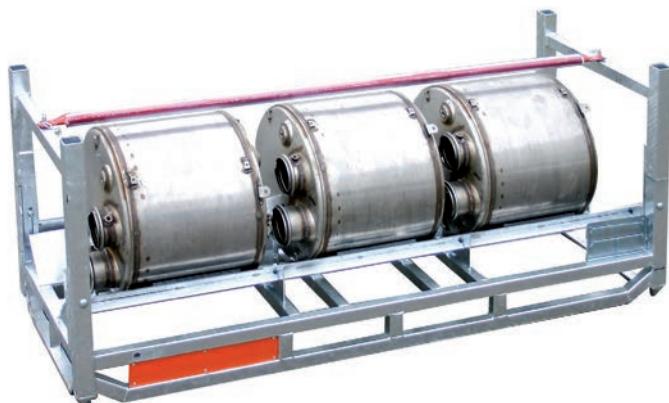
*Special load carrier for radiators
for agricultural machinery*



Special load carrier for various bonnet add-on components



Flexible frame for various tractor engine covers



Special load carrier for lorry tailpipes with plastic and stainless steel for storage after welding and for subsequent transportation

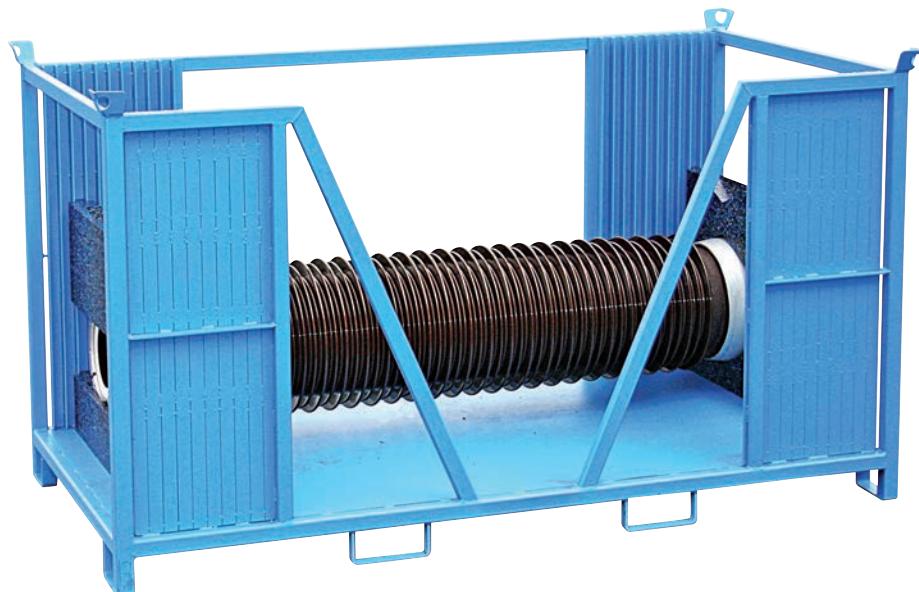


Special load carrier for tanks

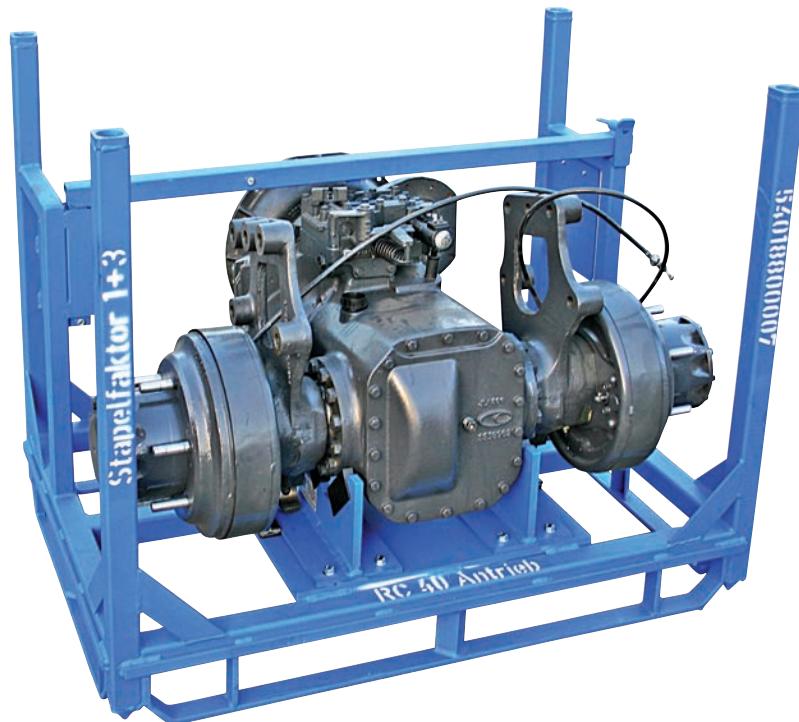


Special load carrier for various isolators, porcelain switches or circuit breakers, in an upright position

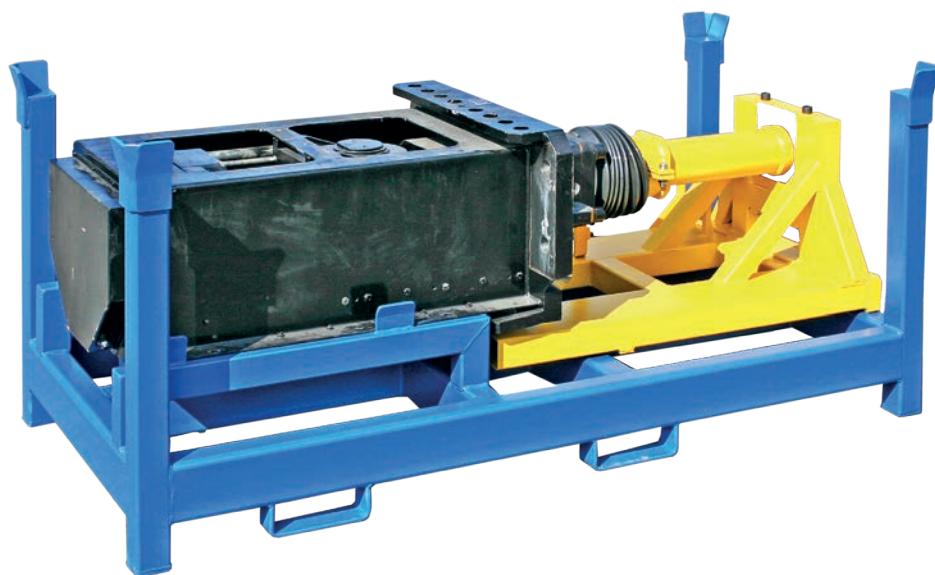
FEIL automotive, agricultural and construction machinery



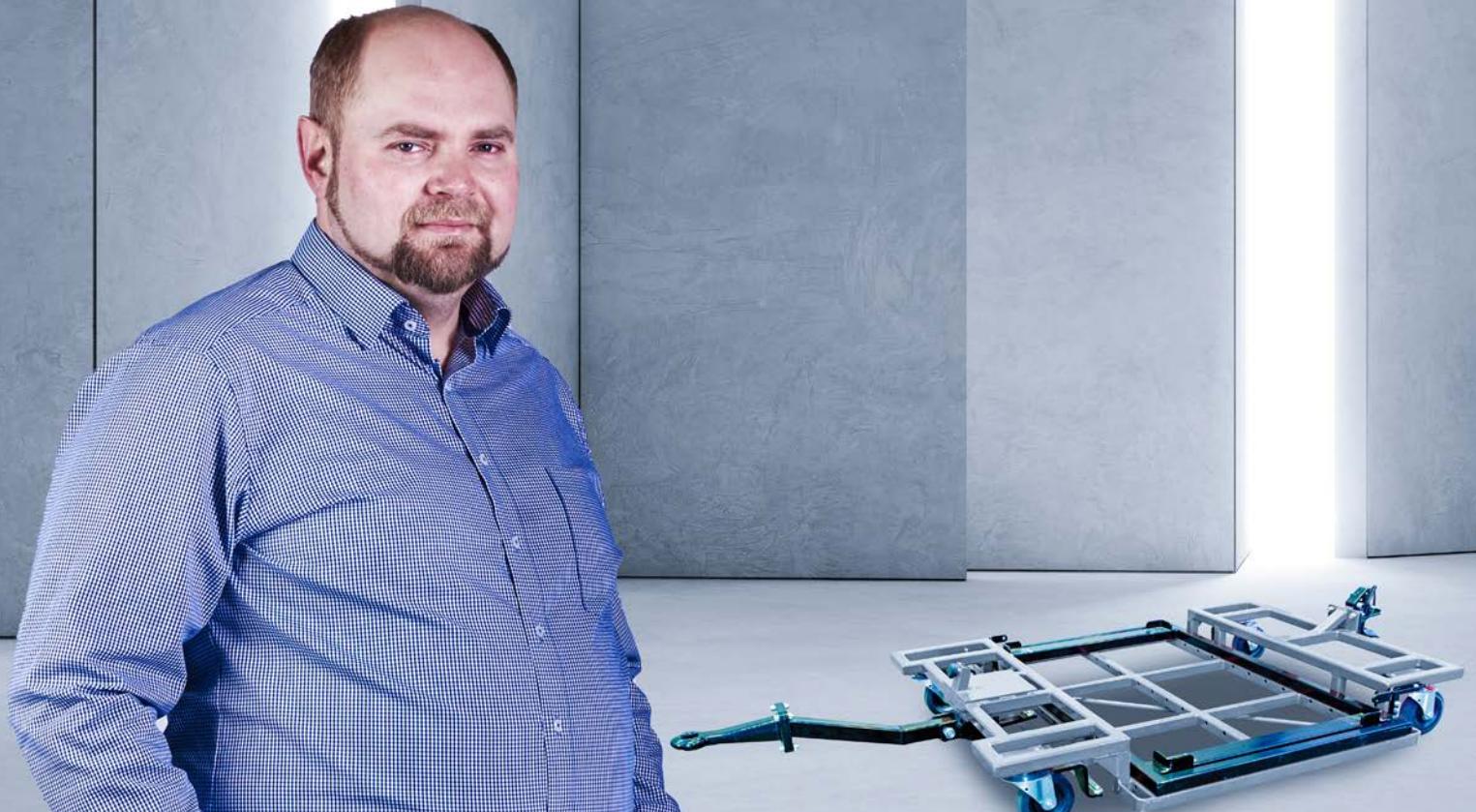
Special load carrier for various isolators, porcelain switches or circuit breakers, lying down



*Special load carrier for drive shafts
for industrial trucks*



Special load carrier for train couplings





FEIL
Designed for logistics



The demand-controlled supply of points of consumption and the combination of supply and disposal in each transport journey signalise lean manufacturing with tugger trains. The origin of this system is in the so-called milk run principle whereby the English and American milk boys would only leave as many new milk bottles by the door as they found empty bottles.



Tugger trains.

Lean production according to schedule.

Intelligent intralogistics, which optimally coordinate warehouse management and internal material transport, create the conditions for lean production processes and increasing productivity within your company. Lean production uses the available resources more efficiently, saves time, travel and costs, increases occupational safety and, last but not least, improves the quality of work and products.

The FEIL tugger train system is a versatile, high-performance instrument with which you can implement a lean production concept in your company. FEIL tugger trains optimise the overall process of material and goods transport, from storage to handling in the workplace through to delivery.

This cuts down forklift operations for the supply of points of consumption, for example, by up to 80 percent compared to conventional parts logistics.

FEIL tugger trains can adapt themselves in tight spaces to almost any storage conditions and production landscape. From shuttles fitted as standard through to customized models, anything is possible. As experts in intralogistics, we can offer you tailor-made solutions from consulting through planning to realisation.

The advantages at a glance:

- Tailor-made lean production concepts
- Simplification and optimisation of the flow of materials
- Combined supply and disposal in each transport journey
- Fewer empty runs and reduced handling costs
- Forklift truck operations reduced by up to 80%
- Increased safety in your company
- For large and small load carriers can be transported





Achieve your goals with a FEIL tugger train system.

→ Standardized supply processes

The standardisation of processes reduces the required time, cost and energy outlay.

→ Reduced personnel costs

Manpower which has so far been committed to the accruing transport tasks can now be saved or productively used elsewhere.

→ Reduced transport volumes

You can optimally use your capacity through the grouping of transport journeys, which increases the efficiency of material and parts logistics.

→ Higher security of supply

Thanks to the clear structuring and the needs-oriented timing of the transport processes, bottlenecks and breakdowns in the supplying of the points of consumption are avoided.

→ Less accidents

With the reduction in transport journey, the risk of work-related accidents, consequential damages and production-line standstills is immediately reduced.

→ Shorter replacement times

Using targeted adjustment of the frequency and route planning, unnecessary detours can be avoided and replacement times can be noticeably reduced.

Analysis

Planning

Visualization

Implementation

At FEIL, the implementation of a lean production concept occurs in four steps. First, we analyse the material flows and value streams in your company together with you and develop an initial planning proposal. We then visualise the possibilities and alternatives for routes, means of transportation and warehouse organisation so that you can track the entire logistics chain and your goods movements with a bird's eye view. Once we have found your model for success, we implement it for you. From plastic containers through wire carts, tugger trains, pallets and large load carriers to towing equipment - we offer you complete solutions all in one place.

1. Analysis

Investigation of the actual status provides the data basis for the initial planning. Opportunities for improvement and potential savings are often discernible even in this phase.

2. Planning

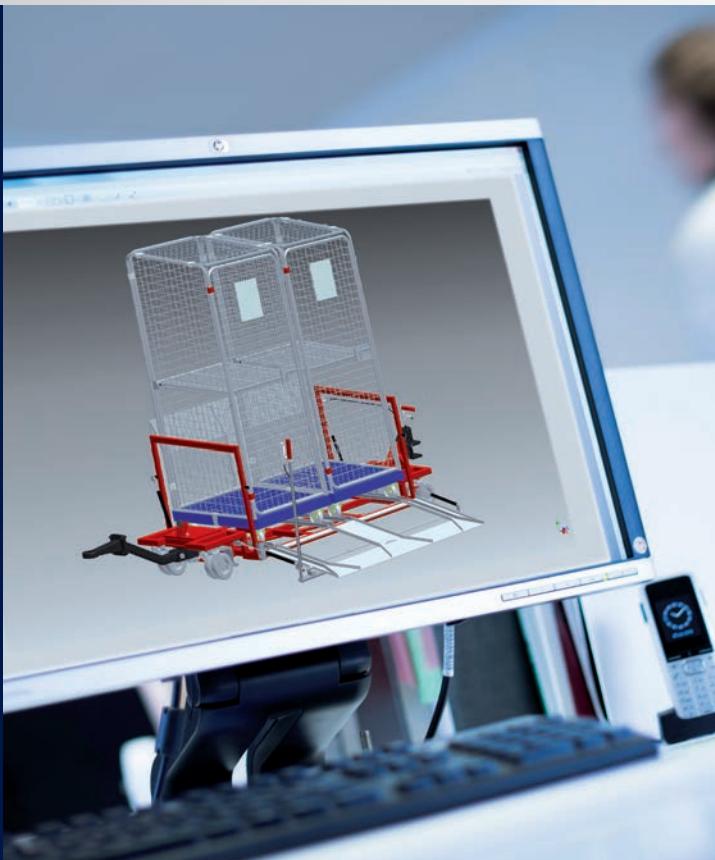
A first concrete design for the lean organisation of your internal flow of materials is formed here. Further optimisation of the plan and the individual transport routes occurs in detailed coordination with you.

3. Visualization

Material movements and connections are represented spatially in 3D simulations. You can follow the entire logistics chain in virtual flights and can simulate routes, means of transportation and warehouse organisation.

4. Implementation

Upon completion of the visualization, we ensure the precise implementation of your lean production concept and deliver all the required components and operating equipment – from plastic containers through to entire tugger trains.



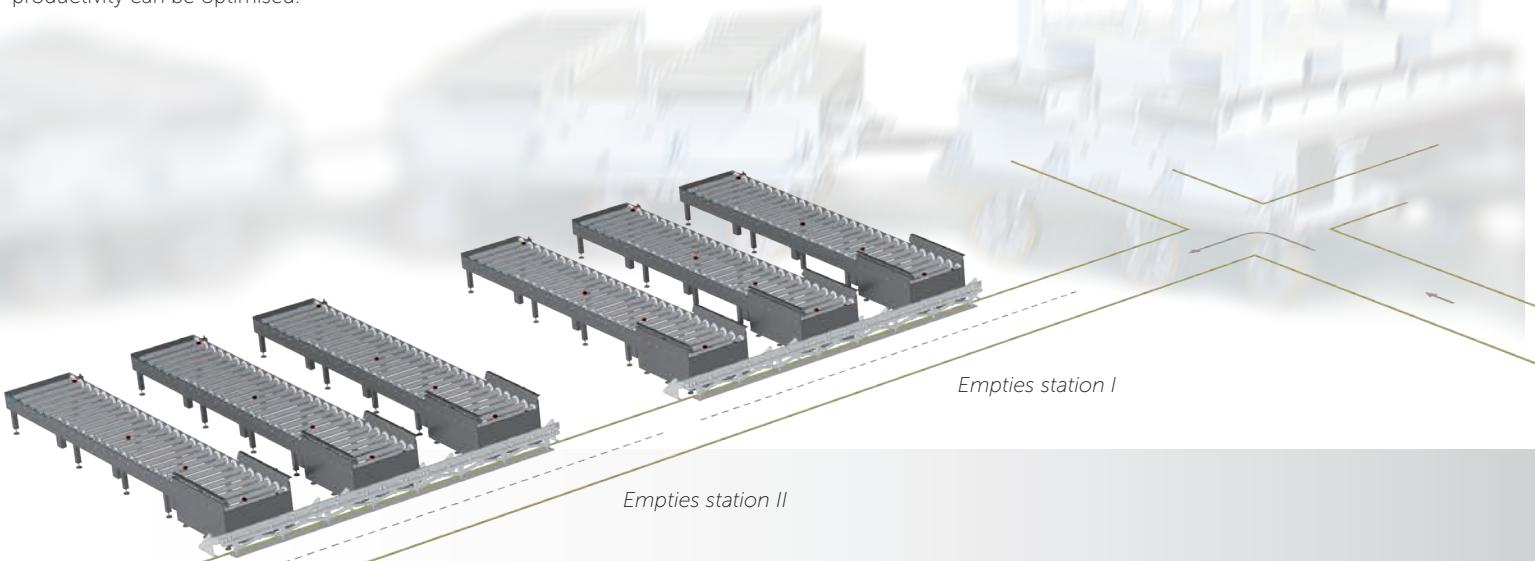
A tugger train system is a transport concept which connects the various staging locations and points of consumption in a production facility using routes. Along the mostly fixed routes, parts and materials can be both distributed and collected in appropriate cycles with each journey using the tugger train (tractor unit plus trailers). The time and energy requirements for transport journeys can thus be minimised and, at the same time, productivity can be optimised.

Station

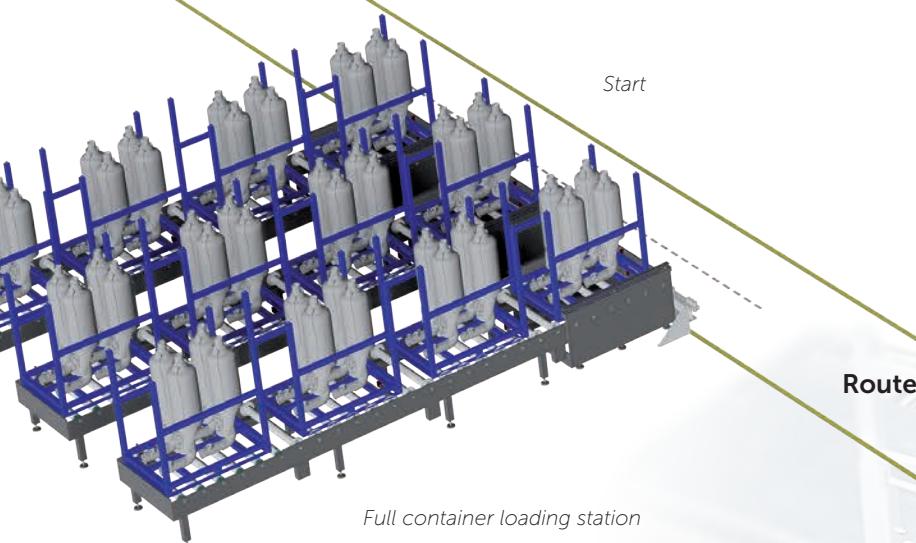
The tugger train is put together at the station. Depending on the concept, this means the loading of the tugger train trailers or simply the coupling of pre-loaded trailers to the train.

Staging locations

These are the points of need or delivery points in the tugger train system where the tugger train makes parts or goods available for consumption and, as required, picks up empties (load carriers which have been emptied). At the same time, replenishment orders are generated here depending on the concept.



**Get there quicker with a tugger train:
The entire system at a glance.**



Schedule with
frequency = 90 min

Trip 1 = 08:00
Trip 2 = 09:30
Trip 3 = 11:00

Route

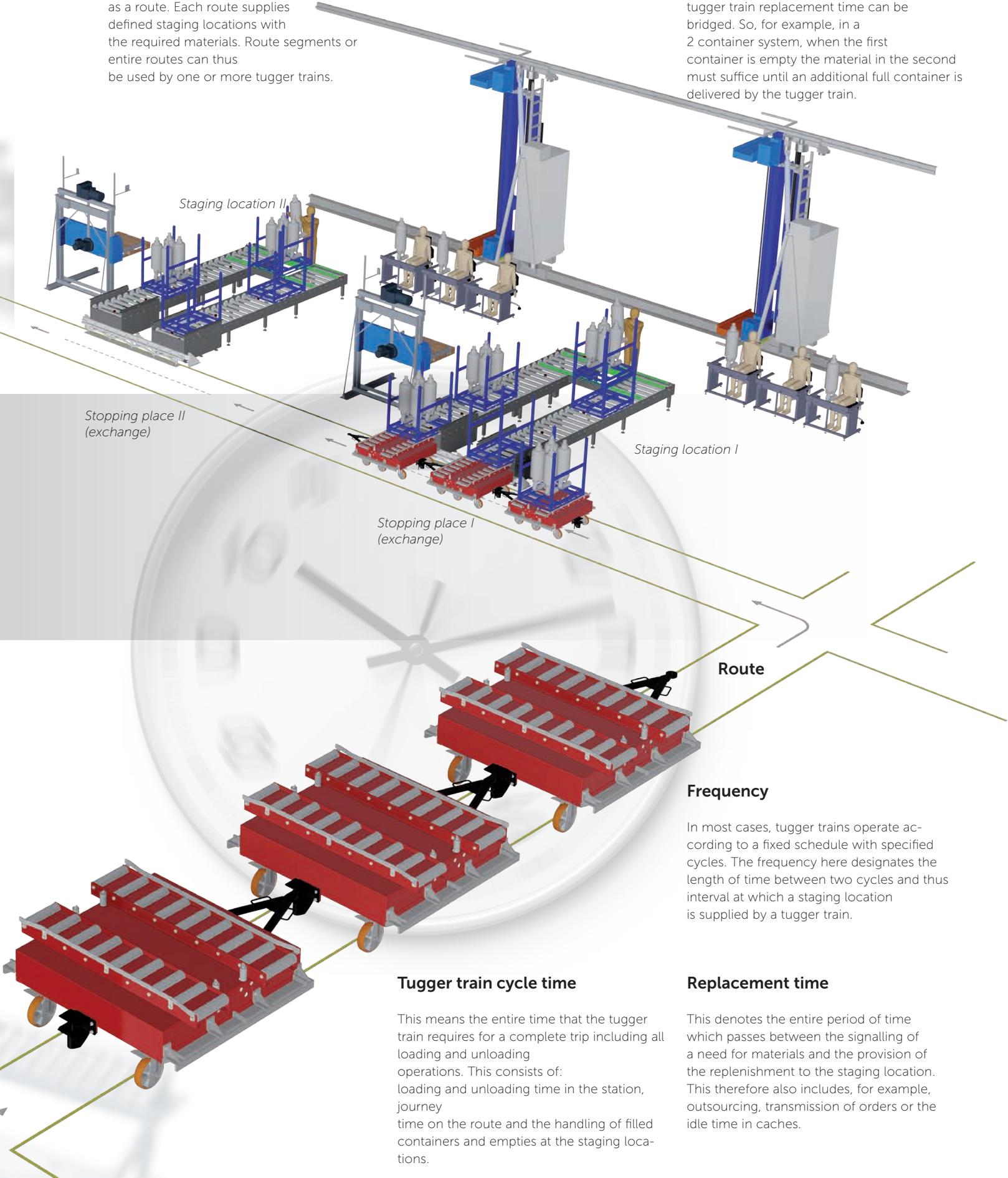
We designate the defined circuit of a tugger train in the production layout as a route. Each route supplies defined staging locations with the required materials. Route segments or entire routes can thus be used by one or more tugger trains.

Trip

Each individual tugger train journey of its route is referred to as a trip.

Material coverage and stocks

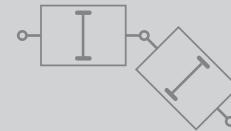
Material coverage and material stocks must be calculated so that the maximum tugger train replacement time can be bridged. So, for example, in a 2 container system, when the first container is empty the material in the second must suffice until an additional full container is delivered by the tugger train.



Axle and steering systems

FEIL EVA light. The platform trolley.

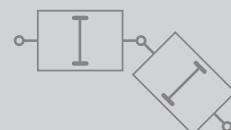
With a loading capacity of 1000 kg - or higher on request - FEIL EVA light is suitable for a wide variety of load carriers and is extremely easy to turn and manoeuvre. Even heavy loads can be transported without a problem using this trolley.



Central axis steering
train running

FEIL E-frame. Tugger train trailer for wheeled transport trolleys.

The FEIL E-frame carries up to 3000 kg and even the standard model is compatible with a variety of movable carriers. There are also special accommodation options available in the special models.

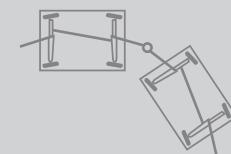


Central axis steering
train running

Shuttle, shooter, trolley, E-frame. Always travel first class with FEIL.

FEIL cargo shuttle. The taxicab for small load carriers (SLC) through to large load carriers (LLC).

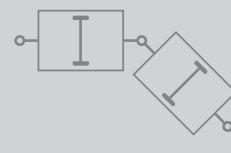
The FEIL cargo shuttle was specially developed to take up transport boxes and rolldollies and thus perfectly facilitates the handling of small parts. The 4-wheel steering ensures optimal directional stability even in narrow lanes and isles.



All-wheel axle pivot steering
train running

FEIL LLC-shooter. The shooter for large load carriers (LLC).

The FEIL LLC-shooter is specially designed according to customer requirements and is used for delivering up to 600 kg of large goods carriers to a wide variety of stations. The innovative and patented drive2dock system ensures millimetre precise docking.



Central axis steering
train running

Turning radius	Features
minimum	<ul style="list-style-type: none"> • simplest construction • stable during coupling thanks to additional castors at the front and rear • parking brake for stability
minimum	<ul style="list-style-type: none"> • simplest construction • manual system without hydraulics/electronics • stable during coupling thanks to additional castors at the front and rear • parking brake for stability
low	<ul style="list-style-type: none"> • highest loading capacity • tilt and pitch safe • reliable construction on steering linkages
minimum	<ul style="list-style-type: none"> • simplest construction • stable during coupling thanks to additional castors at the front and rear • parking brake for stability

The universal entry-level model.

The EVA light tugger train trolley transports a wide variety of load carriers quickly and simply. Equipped with a modular plug system, it carries lattice boxes or Euro pallets as well as containers with special dimensions. The high-quality Rockinger trailer coupling and the pluggable push handle ensure safe and ergonomic use. The tugger train trolley can be turned through 360° on the spot and can optionally be equipped for side shunting from the network as well as rear-side loading by electrical highlighters.

Many advantages at a glance:

- Loading capacity of up to 1000 kg (higher loading capacities upon request)
- Speed of up to 6 km/h
- For lattice boxes, Euro pallets and containers with special dimensions
- Up to five shuttles in a network (recommended)
- Optimal directional stability thanks to 6-wheel steering
- Customer-specific undercarriages available
- Special dimensions upon request



FEIL EVA light. The tugger train trolley.



Tugger train trailer for wheeled transport trolleys.

The FEIL E-frame is a maintenance-free and robust tugger train trailer which is reduced to the bare essentials and works reliably for almost all types of movable load carriers. Thanks to its simple construction, it is compatible with a wide variety of load carriers, but we also produce suitable variants according to particular requirements which can be adapted to an existing system with the appropriate measurements, chassis and special accommodation options such as roll containers, shooters or trolleys, for example. Up to five E-frames can be put together with a tugger train.

Many advantages at a glance:

- Loading capacity of up to 3000 kg
- Speed of up to 6 km/h
- Optimal directional stability thanks to 6-wheel chassis
- Easy, single-side feeding
- Special dimensions upon request
- Up to five frames in a network (recommended)



Individually
configurable!

FEIL E-frame.



The two-part tugger train trailer for small load carriers (SLC).

The FEIL E-frame is a maintenance-free and robust tugger train trailer which is reduced to the bare essentials and works reliably for almost all types of movable load carriers. Thanks to its simple construction, it is compatible with a wide variety of load carriers. We can also customize the E-frame according to particular requirements so that it can be adapted to an existing system with the appropriate measurements, chassis and special accommodation options such as roll containers, shooters or trolleys, for example. Up to five E-frames can be put together with a tugger train.

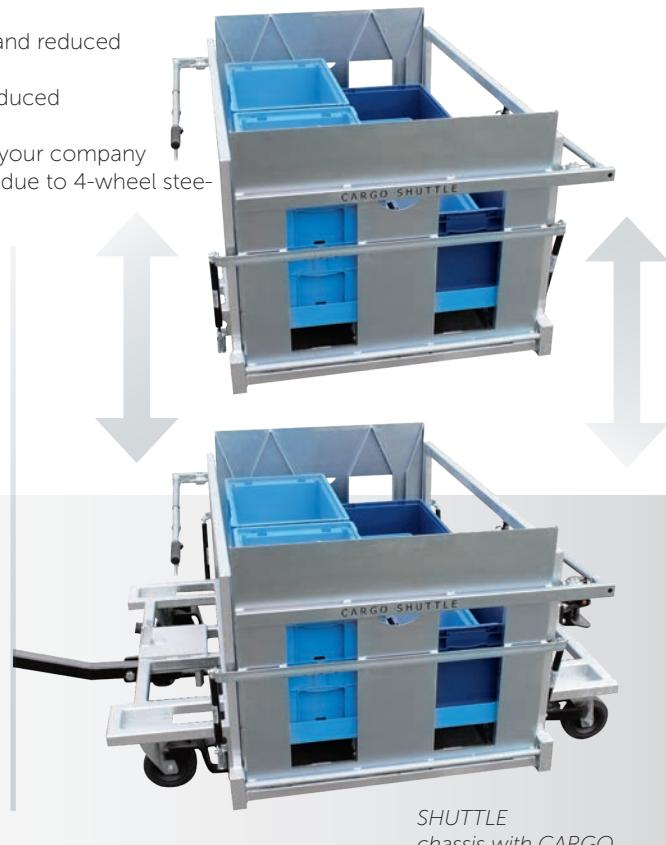
The advantages at a glance:

- Continuous transportation of parts and materials from supplier to final installation at customers site
- Saving on commissioning and packaging costs as well as for transportation and disposal of packaging material
- Materials are supplied and picked up at the same time
- Fewer empty runs and reduced handling costs
- Use of forklifts is reduced by up to 80%
- Increased safety in your company
- Directional stability due to 4-wheel steering

CARGO
for accommodating
picking units

2-part system

FEIL cargo shuttle. The taxicab.



SHUTTLE
chassis with CARGO



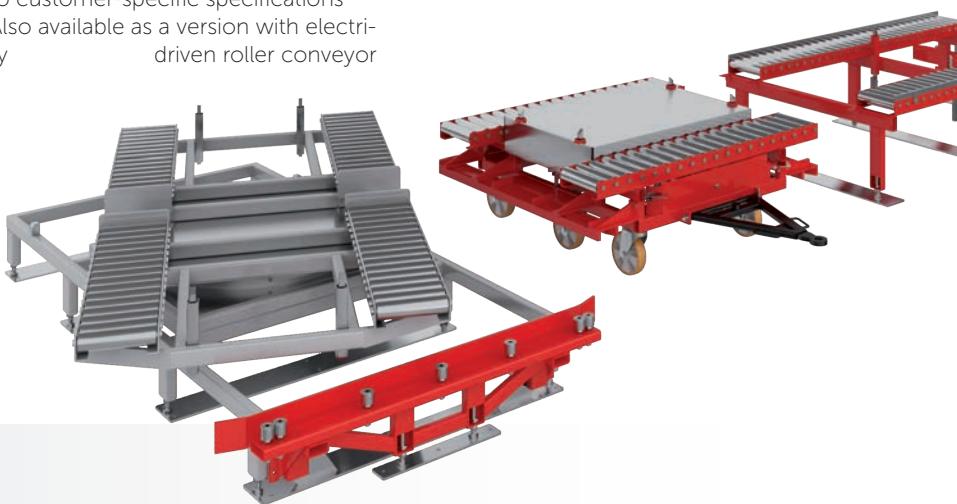
The shooter for large load carriers (LLC).

The FEIL LLC-shooter is a customer-specific system for transporting and delivering large load carriers to a wide variety of stations. Thanks to the innovative and patented drive2dock system, millimetre precise docking at the station is possible. The large load carriers can be moved by hand, while an automatic locking device fastens the load and ensures that the goods are optimally secured during transportation.

The system is compatible with existing tugger train systems and is usable with a wide range of large load carriers. The trailers can be turned through 360°, side shunting from the network is optionally possible.

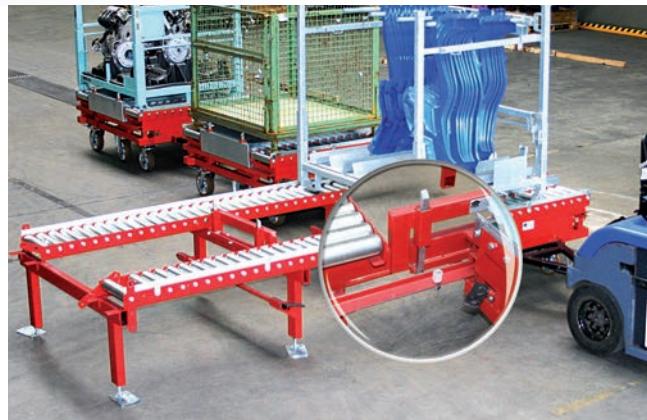
Many advantages at a glance:

- Secure, simple docking with the drive2dock system at the station
- Load carriers up to 600 kg can be moved manually by one person
- Speed of up to 6 km/h possible
- Up to eight tugger train trailers combinable
- Automatic securing of the load
- Manual feeding without tools
- Chassis and measurements according to customer-specific specifications
- Also available as a version with electrically driven roller conveyor



drive2dock

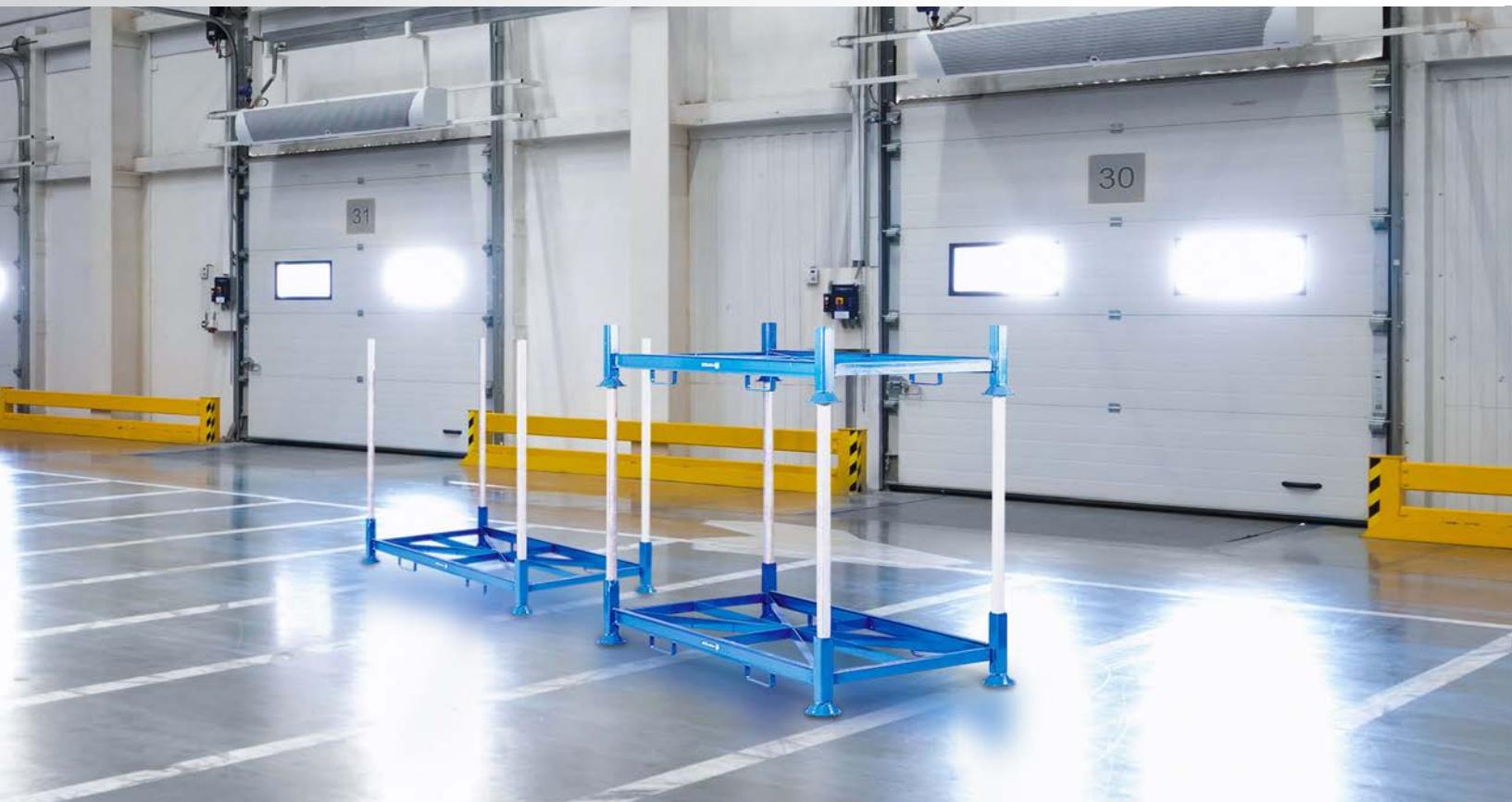
FEIL LLC-shooter. With drive2dock for perfect positioning.

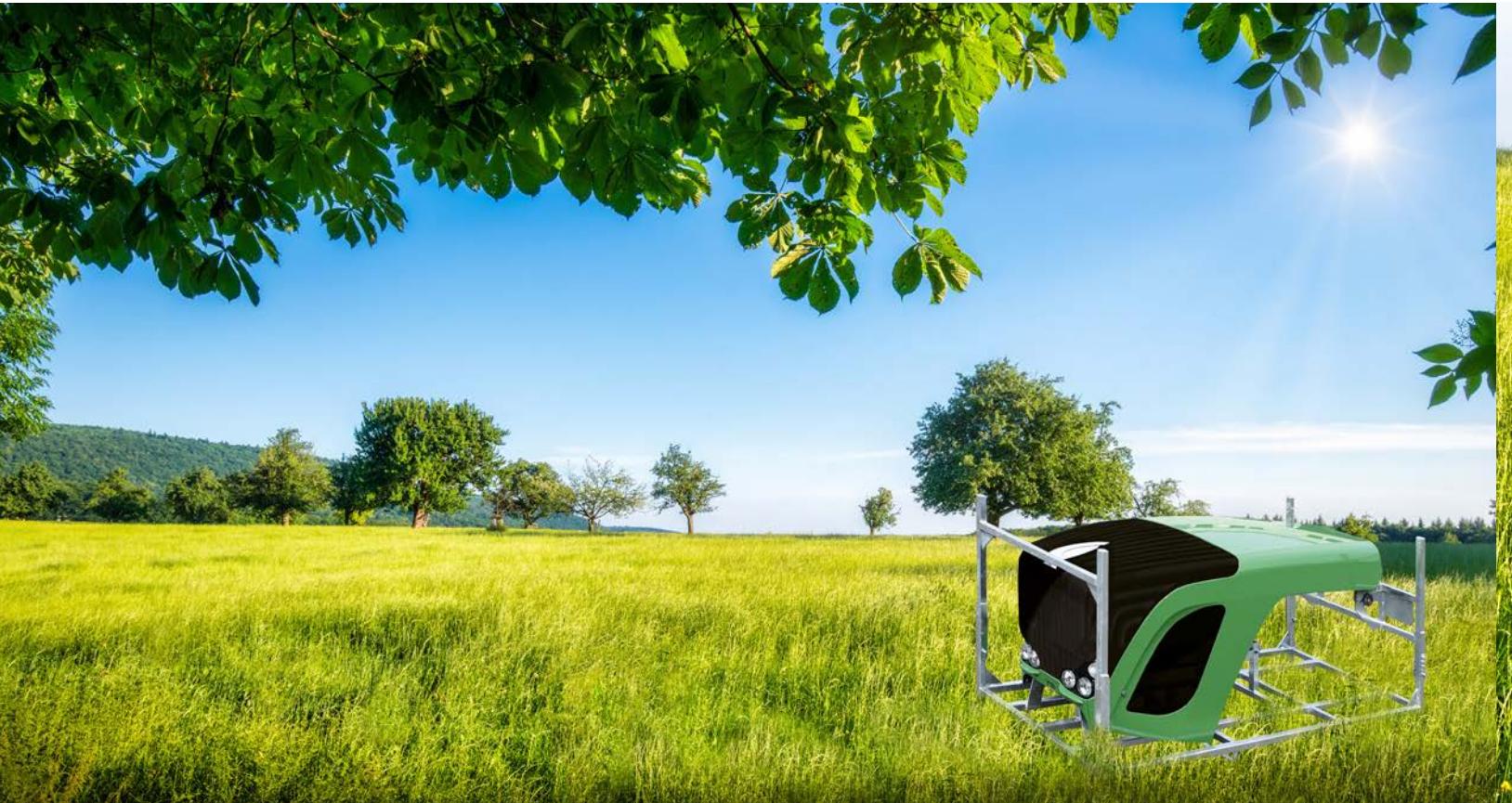






**Highest quality down to the smallest detail:
The product world of FEIL.**







**Highest quality down to the smallest detail:
The product world of FEIL.**





FEIL
Designed for logistics





**Highest quality down to the smallest detail:
The product world of FEIL.**





FEIL
••••• • Designed for logistics





**Highest quality down to the smallest detail:
The product world of FEIL.**





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**We Are Logisticians
40 Years of Experience and Reliability**

More than 750 employees. Over 40 branches throughout Europe. On the road successfully for more than 40 years in the world of logistics. The NOSTA Group is an international, family-run logistics service provider. We have been on the move for our customers - numerous notable industrial and trade companies - since our founding in 1978 and always provide them with high-quality logistics services along the entire value-added chain.

Apart from optimum planning and carrying out our logistics processes, our company also concentrates on developing individual industry solutions, future-oriented concepts and the production of individual load carriers. Quality, dependability and practised customer-focus are always at the centre of our activities.

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