

RECYCLING CONSTRUCTION





BENEFICIAL PERFORMANCE FOR RECYCLING AND CONSTRUCTION

WITH EPSILON YOU ARE HANDLING ON HIGHEST LEVEL

The amount of recyclable materials worldwide increases continuously. The handling of recycling material makes greatest demand on human and machine. Tough construction, precise controllability and many EPSILON specific solutions make the work easier and more efficient.

The brand PALFINGER EPSILON for decades has stood for solution-orientated and most reliable cranes.

Innovative, technically-superior and our service friendly cranes offer the professional solution.

Tailored for each application in recycling and construction and economical over the whole lifetime cycle.

SCRAP HANDLING



CONTAINER HANDLING



CLAMSHELL BUCKET USE



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Epsolution the professional's choice

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TOP SEAT

Whether in standard version behind the column or as side mounted solution – control from the high seat ensures optimal functionality and ergonomics. The side mounted high seat, alternatively mounted on the left or on the right of the column, offers a completely unlimited view of the whole working area.



LATERAL TOP SEAT



CONTROLS

- » Joysticks / Linear levers
- » Single circuit / double circuit
- » Fixed displacement pump / Variable displacement pump



WEATHER PROTECTION "EPSHOOD"

- » Protection in any weather condition
- » Folds with pneumatic cylinder



REMOTE CONTROL / STAND UP

Remote control: Highly precise and easy handling. Available with linear levers or joysticks.
Stand up control: Perfect sight over the tipper truck, also available in combination with remote control.



STAND UP

- » Linear levers / Linear levers with remote control
- » Fixed displacement pump / Variable displacement pump



REMOTE CONTROL

- » Linear levers / Joysticks / Joysticks with twist function
- » Fixed displacement pump / Variable displacement pump



EPSOLUTION

THE PROFESSIONAL'S CHOICE

With EPSCOPE, EPSLINK and EPSLIGHT EPSILON started a novel concept, which focuses explicitly on the operator's benefit.

The market leader for forestry and recycling cranes considers it most important to find a solution for each customer that is based on his requirements and general feedback. The aim is to generate a professional solution to fulfill the customer's needs and give a tailored solution for the required application area.

EPSILON and SOLUTION become:



EPSCOPE BOOM SYSTEMS

Epsilon

PATENTED DOUBLE TELESCOPE SYSTEM

with extension cylinder and hose equipment mounted inside and protected EPSCOPE allows manipulating without risk of damage.



SINGLE TELESCOPE SYSTEM

Also with single telescopes EPSILON comes with internal guided hoses to ensure maximum safety.



EPSLINK LINK-ROTATOR COMBINATION

Epsilon

PATENTED LINK-ROTATOR COMBINATION

Extraordinarily robust four-eye-cast link with Indexator rotator, perfect hose guidance. Suitable for EPSILON scrap grapple.



1. EPSILON offers a wide variety of link-rotator-combinations to suit the Kinshofer equipment.

2. In extended parking position of the grab on the load EPSILON offers a solution turned for 180° for protection of the hoses.



AUXILIARY EQUIPMENT

EPSILON grapples and clamshell buckets are tailored to our Z-cranes. They are mounted protected in consideration of the vehicle width. Further auxiliary equipment needs to be adjusted to the crane with your general dealer.



LINKAGE DOUBLE LINKAGE SYSTEM

Epsolution

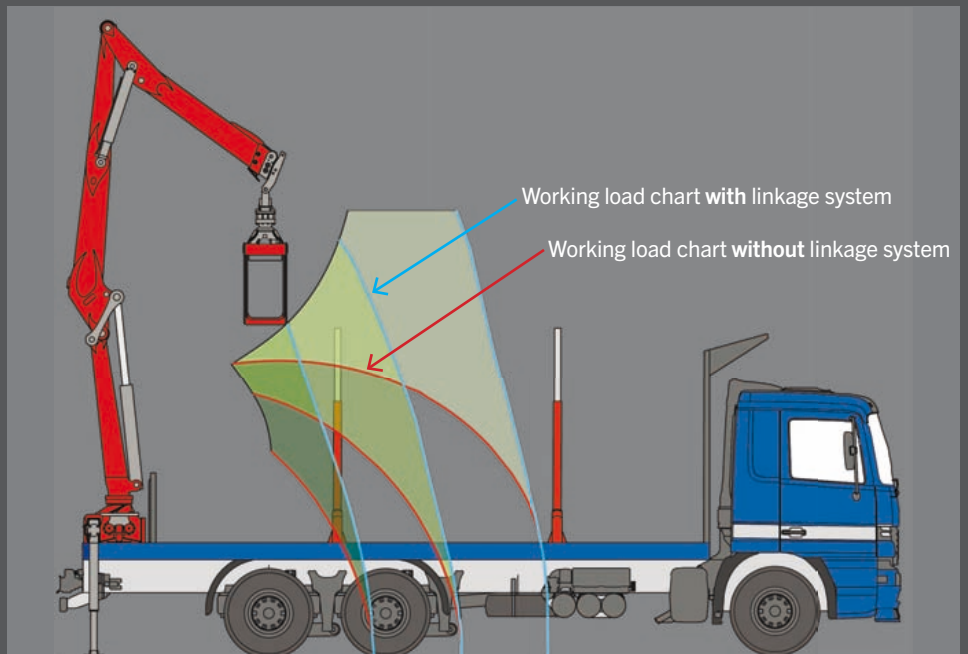
STRONG LINKAGE SYSTEM

Steady force and constant boom speed in the whole operating area



EXTRAORDINARY LIFTING POWER

in upper working area on Z-cranes



LINKAGE SYSTEM

with L-cranes



PRECISE CONTROL DESPITE HIGH SPEED

Epsolution

DOUBLE SLEWING SYSTEM

- » Double slewing system with endstrokedamping
- » Precise rack and pinion slewing system
- » Floating bearing in oil bath



PERFECT VALVE FINISH

- » Broadly dimensioned control valve, filter and tubing
- » Ergonomically formed control levers with maintenance free links



HIGH-CLASS COMPONENTS

- » Floating bearing in oil bath
- » High grade bronze bushes with greasing channels



TIPPER Z & TRIPLE Z

Evolution

TIPPER-Z:

Ideal manipulating geometry for the building on tipper chassis for clamshell bucket application. Thanks to the low side walls of the tipper truck one knuckle joint between crane column and main boom is not needed. Hence weight can be saved.



TRIPLE-Z:

TELESCOPIC MAIN BOOM

The main boom is extendable for 1000 mm by an additional function on the valve, as well as an internal cylinder. The crane has with its main boom unextended a lower ceiling height and is therefore more flexible in application. This crane model is equipped with one knuckle joint due to the high container walls.



TIPPER-Z & TRIPLE-Z: COMPACT DESIGN

A crane with a 300 l grapple as well as 400 l clamshell bucket is foldable to 2.55 m vehicle width. As the crane is only 2.4 m in height, overall vehicle height is kept under 4 m.



TIPPER Z & TRIPLE Z

Evolution

TIPPER-Z & TRIPLE-Z: LOW INSTALLATION LEVEL

In transport position, boom system projects max. 180 mm below installation level, hence loader can easily be mounted on 8 wheeler chassis and there is no space problem on EURO 5 / 6 chassis with additional tanks for fuel additives.



TRIPLE-Z: HOOK CLEARANCE

In extended position Triple-Z cranes offer an excellent hook clearance up to 4.4 m. Hence loadings can be executed up to the front side of the container.



TRIPLE-Z: CRANE GEOMETRY

With the telescopic main boom a perfect working geometry can be guaranteed, which is similar to the geometry of L-cranes. Moreover an excellent range can be achieved in daily application.



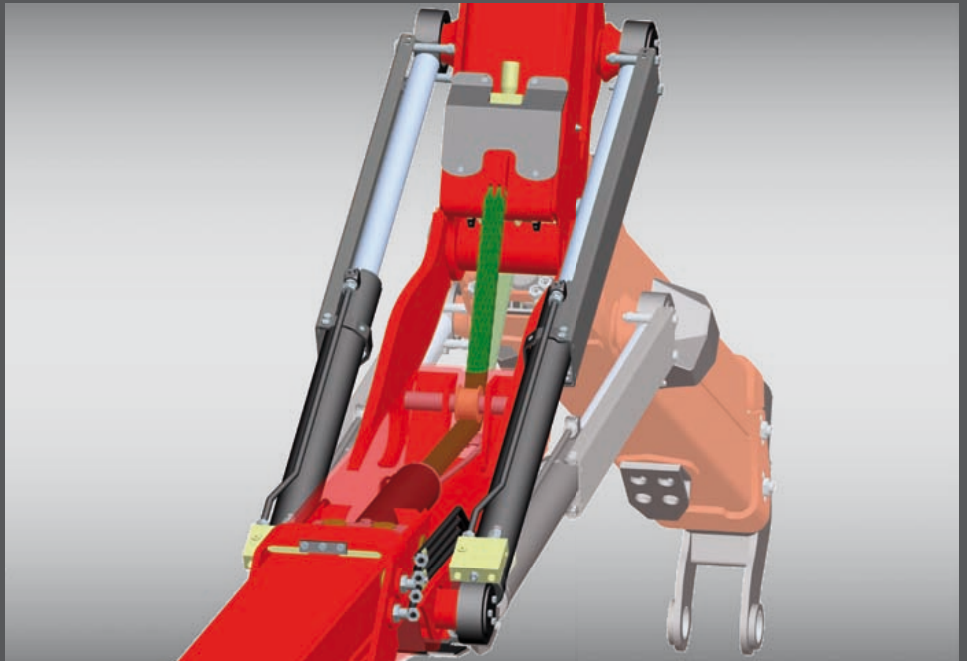
EASY FOLD INTELLIGENT SOLUTION

Epsilon

BOOM PARKING SYSTEM FOR TIPPER-Z & TRIPLE-Z

When using Z-cranes normally stabilization must be done on the ground to bridge the dead center of the knuckle cylinder. Not with the EASY FOLD system of EPSILON:

- » Activating the function "Raise knuckle boom" folds the crane completely
- » Dead center is conquered by booster cylinder



YOU ACTIVATE „RAISE KNUCKLE BOOM“ AND EASY FOLD DOES THE REST

1. Raise knuckle boom until the end position
2. Automatical switch between "Press" and "Pull"
3. Booster cylinder brings the knuckle boom over the dead center
4. Knuckle cylinder brings the arm system in parking position

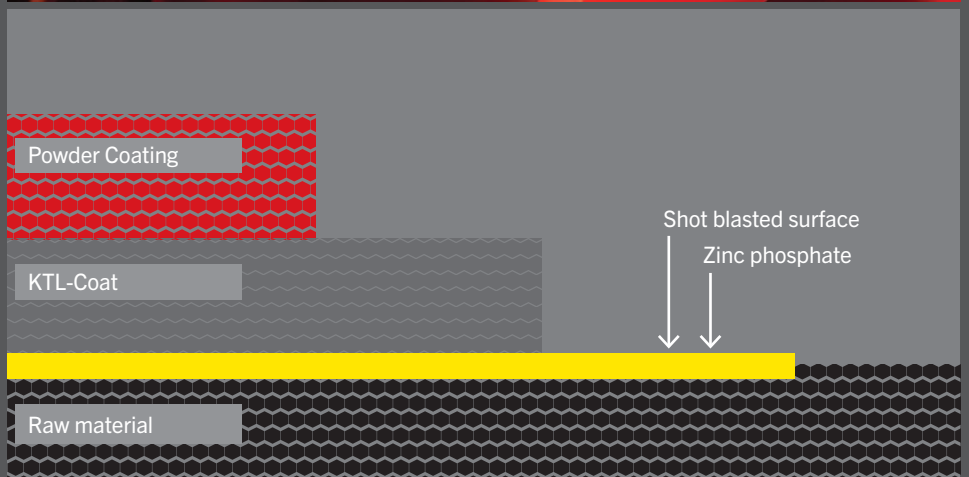


KTL CATAPHORETIC PAINTING

Epsolution

INNOVATIVE TECHNOLOGY FOR LONG-LASTING SURFACE- PROTECTION

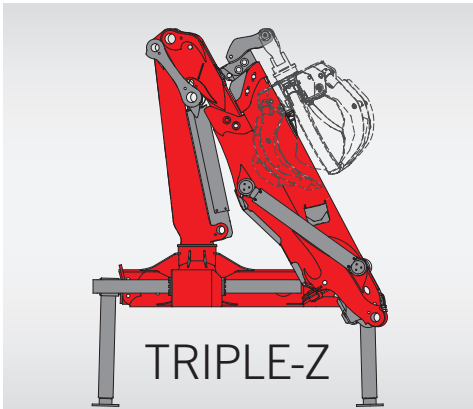
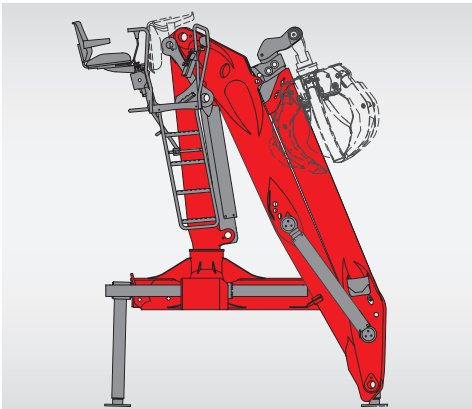
The right surface treatment forms the basis of durable and long-lasting surface protection. The passage of components through the individual process stages of KTL coating is fully automated in the cathodic dip painting plants of the production facilities in Marburg and Lengau. The components are degreased, rinsed, activated, coated with zinc phosphate, rinsed again, passivated and after a final rinse with ultra-pure water are coated electrostatically with the KTL coating in a dip process. Paint robots finalize the surface treatment.





Z-CRANES SCRAP

The compact construction allows the crane to fold across the direction of motion. In this parking position the truck can be loaded up to the legal maximum height. By asymmetrical polyp grab vehicle width of 2.55 m is not exceeded.

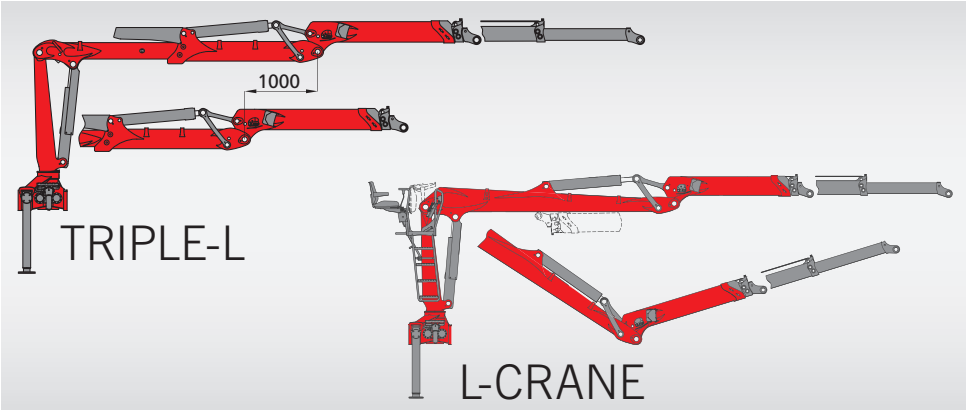


PRODUCT OVERVIEW Z-CRANE				
CRANE DESCRIPTION		CRANE TYPE	INTERMEDIATE OPERATION, MAX. 4H/DAY	SHIFT OPERATION, MAX. 8H/DAY
Q	150	Z	96	
Class M-Medium Q-Medium to heavy	Lifting moment [kNm]	Z-crane	Outreach [dm]	
TR - Triple Z crane (telescopic main boom) D - Duration (PRESSURE DEDUCED) HPLS – High Power Lifting System: + 20 % lifting power, at the same time reduced speed, for short-term operation, only in comb. with RCE		M100ZD		
		M100Z		
		M110Z		
		M120Z		
		M130Z HPLS		
		Q130ZD		
		Q150Z		
		Q170Z		
		Q180Z HPLS		



L-CRANES SCRAP

L-cranes are equipped with a long main boom and are characterized by high speed and excellent hook clearance. Parking position in this case is above the load respectively on the loading platform. Due to the additional telescopic main boom with TR-models the arm system can be put within the container.



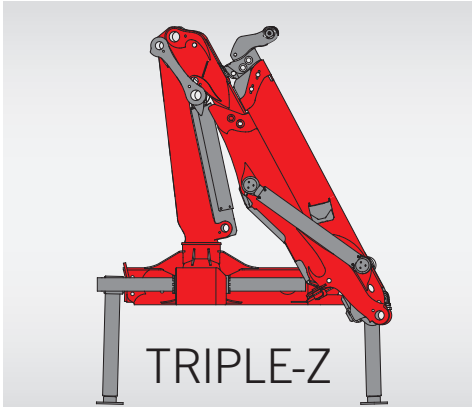
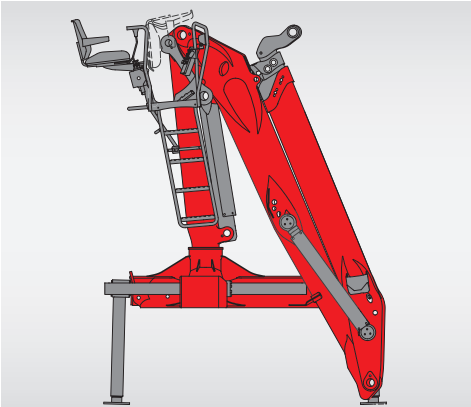
PRODUCT OVERVIEW L-CRANE				
CRANE DESCRIPTION		CRANE TYPE	INTERMEDIATE OPERATION, MAX. 4H/DAY	SHIFT OPERATION, MAX. 8H/DAY
Q	150	L	95TR	
Class M-Medium Q-Medium to heavy	Lifting moment [kNm]	L-crane	Outreach [dm]	
		M100LD		
		M100L		
		M110L		
		M120L		
		M130L HPLS		
		Q130LD		
		Q150L		
		Q170L		
		Q180L HPLS		
		QS200L		

TR - Triple L crane (telescopic main boom)
D - Duration (PRESSURE DEDUCED)
HPLS - High Power Lifting System: + 20 % lifting power, at the same time reduced speed, for short-term operation, only in comb. with RCE



Z-CRANES CONTAINER

The compact construction allows the crane to fold across the direction of motion. In this parking position the truck can be loaded up to the legal maximum height. Additional crane models, as e.g. the TRIPLE-Z models, allow best loading facility by their geometry as well as their hook clearance. Moreover the additional equipment EASY FOLD offers an enormous advantage in daily use.

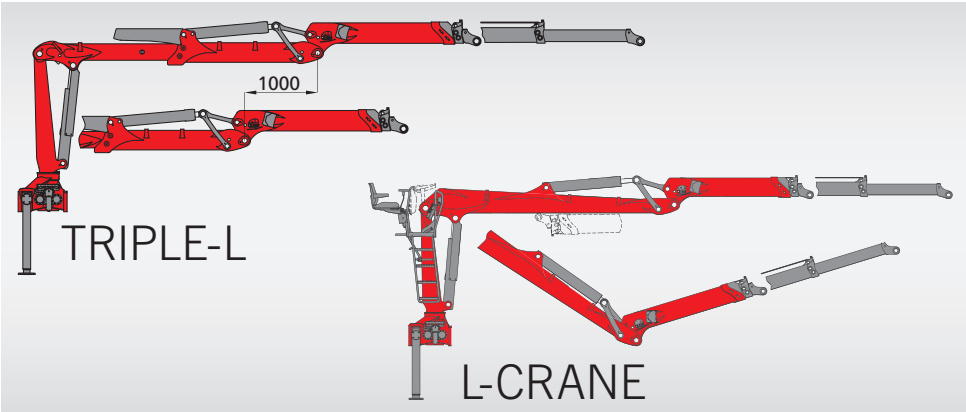


PRODUCT OVERVIEW Z-CRANE							
CRANE DESCRIPTION		CRANE TYPE	INTERMEDIATE OPERATION, MAX. 4H/DAY	SHIFT OPERATION, MAX. 8H/DAY			
Q	150	Z	96				
Class M-Medium Q-Medium to heavy	Lifting moment [kNm]	Z-crane	Outreach [dm]				
<div>TR - Triple Z crane (telescopic main boom)</div> <div>D - Duration (PRESSURE DEDUCED)</div> <div>HPLS – High Power Lifting System: + 20 % lifting power, at the same time reduced speed, for short-term operation, only in comb. with RCE</div>					M100ZD		
					M100Z		
					M110Z		
					M120Z		
					M130Z HPLS		
					Q130ZD		
					Q150Z		
					Q170Z		
					Q180Z HPLS		



L-CRANES CONTAINER

L-cranes are equipped with a long main boom and are characterized by high speed and excellent hook clearance. The parking position is mostly in the container. Depending on the buildup, a TRIPLE-L loader can solve the space problem as well.



PRODUCT OVERVIEW L-CRANE				
CRANE DESCRIPTION		CRANE TYPE	INTERMEDIATE OPERATION, MAX. 4H/DAY	SHIFT OPERATION, MAX. 8H/DAY
Q	150	L	97	
Class	Lifting moment	L-crane	Outreach	
M-Medium	[kNm]		[dm]	
Q-Medium to heavy				
		M100LD		
		M100L		
		M110L		
		M120L		
		M130L HPLS		
		Q130LD		
		Q150L		
		Q170L		
		Q180L HPLS		
		QS200L		

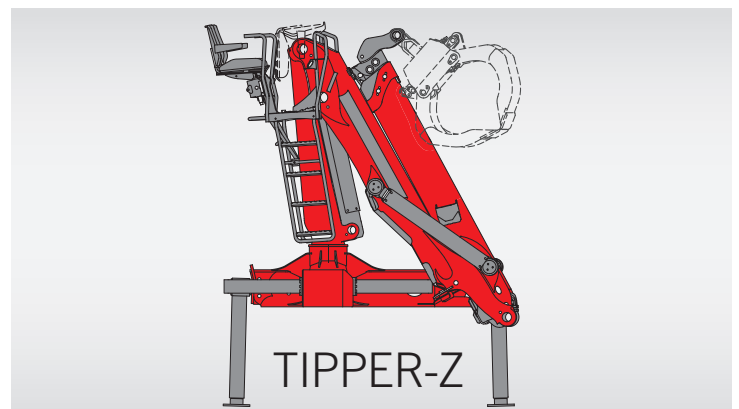
TR - Triple L crane (telescopic main boom)
D - Duration (PRESSURE DEDUCED)
HPLS - High Power Lifting System: + 20 % lifting power, at the same time reduced speed, for short-term operation, only in comb. with RCE



Z-CRANES CLAMSHELL BUCKET USE

TIPPER Z – the perfect clamshell bucket crane

These cranes have the ideal working geometry for the buildup on tipper chassis and the application with clamshell buckets. Thanks to the low side walls of the tipper truck one knuckle joint between crane column and main boom is not needed, hence weight can be saved. The crane with a 400 l clamshell bucket mounted is foldable within 2.55 m across the direction of motion.



PRODUCT OVERVIEW Z-CRANE

CRANE DESCRIPTION				CRANE TYPE	INTERMEDIATE OPERATION, MAX. 4H/DAY	SHIFT OPERATION, MAX. 8H/DAY
Q	150	Z	84TI	M100ZD		
Class	Lifting moment	Z-crane	Outreach	M100Z		
M-Medium	[kNm]		[dm]	M110Z		
Q-Medium to heavy				M120Z		
				M130Z HPLS		
				Q130ZD		
				Q150Z		
				Q170Z		
				Q180Z HPLS		

TI - Tipper Z crane (the perfect tipper crane)

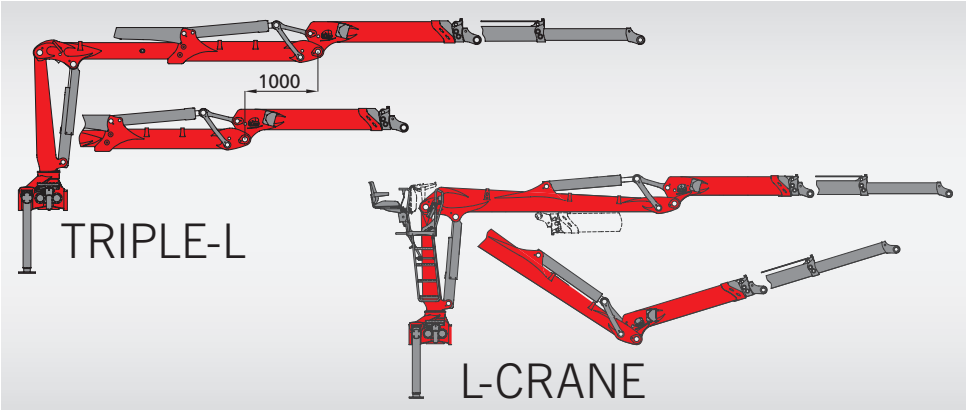
D - Duration (PRESSURE DEDUCED)

HPLS – High Power Lifting System: + 20 % lifting power, at the same time reduced speed, for short-term operation, only in comb. with RCE



L-CRANES CLAMSHELL BUCKET USE

EPSILON cranes are proper for applications with clamshell buckets, especially because of their good performance in loading and unloading. L-cranes have a long main boom and are characterized by their speed and excellent hook clearance. Hereby productivity can be increased significantly.



PRODUCT OVERVIEW L-CRANE							
CRANE DESCRIPTION				CRANE TYPE	INTERMEDIATE OPERATION, MAX. 4H/DAY	SHIFT OPERATION, MAX. 8H/DAY	
M	100	L	83	M100LD			
				M100L			
				M110L			
				M120L			
				M130L HPLS			
				Q130LD			
				Q150L			
				Q170L			
				Q180L HPLS			
				QS200L			

TR - Triple L crane (telescopic main boom)

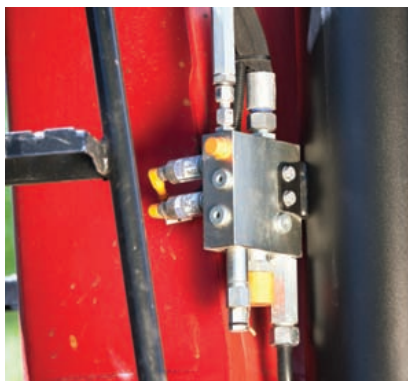
D - Duration (PRESSURE DEDUCED)

HPLS - High Power Lifting System: + 20 % lifting power, at the same time reduced speed, for short-term operation, only in comb. with RCE

STANDARDS

CE-EQUIPMENT RECYCLING

EPSILON recycling cranes come up to the requirements of the European machinery directive. This norm defines standards for loaders regarding design, calculation, installation and handing over to the customer. EN12999/2011 demands:



OVERLOAD PROTECTION AND LOAD HOLDING VALVES

Cranes need to be secured depending on the control mode electronically or mechanically. Load holding valves avoid a deepening of the load, in case of hose burst/rips.



STABILIZING CYLINDERS WITH PENDULUM PLATES

Stabilizing plates have to level out unevenness of the ground up to 10° in each direction.

Further warning and safety devices are demanded by the norm and a practical feedback for the operator.



STABILIZER CONTROL WITH LIMIT SWITCH

This system supervises on the one hand, if the crane is in transport position and on the other hand, if the crane is stabilized during operation.



MAIN BOOM CONTROL

This system supervises the transport position of the crane, as well as the position of the main boom when operating from a stand up in order to protect the operator.

STANDARDS

CE RECYCLING MINI

This system comprises all necessary safety systems. The recycling package has been conceived only for high seat cranes. It is a simplified alternative and comes with mechanical overload protection.



OPERATION TERMINAL ON HIGH SEAT

The terminal is equipped with a capacity control, which informs the operator at a capacity of 90 % by visual and audible warnings.



STABILIZING CONDITIONS

This simple alternative is perfect when stabilizing width is not limited at all. Operation of the crane is only possible when stabilizer legs are active on both sides.

CE RECYCLING LUXURY

The CE recycling luxury system is supervised by PALTRONIC 50 and offers therefore the best safety equipment for the operator. Compared to the basic system the luxury version offers a tailored solution with each form of constricted space. Depending on the stabilizing position the crane capacity is optimized by monitoring the stabilizers.



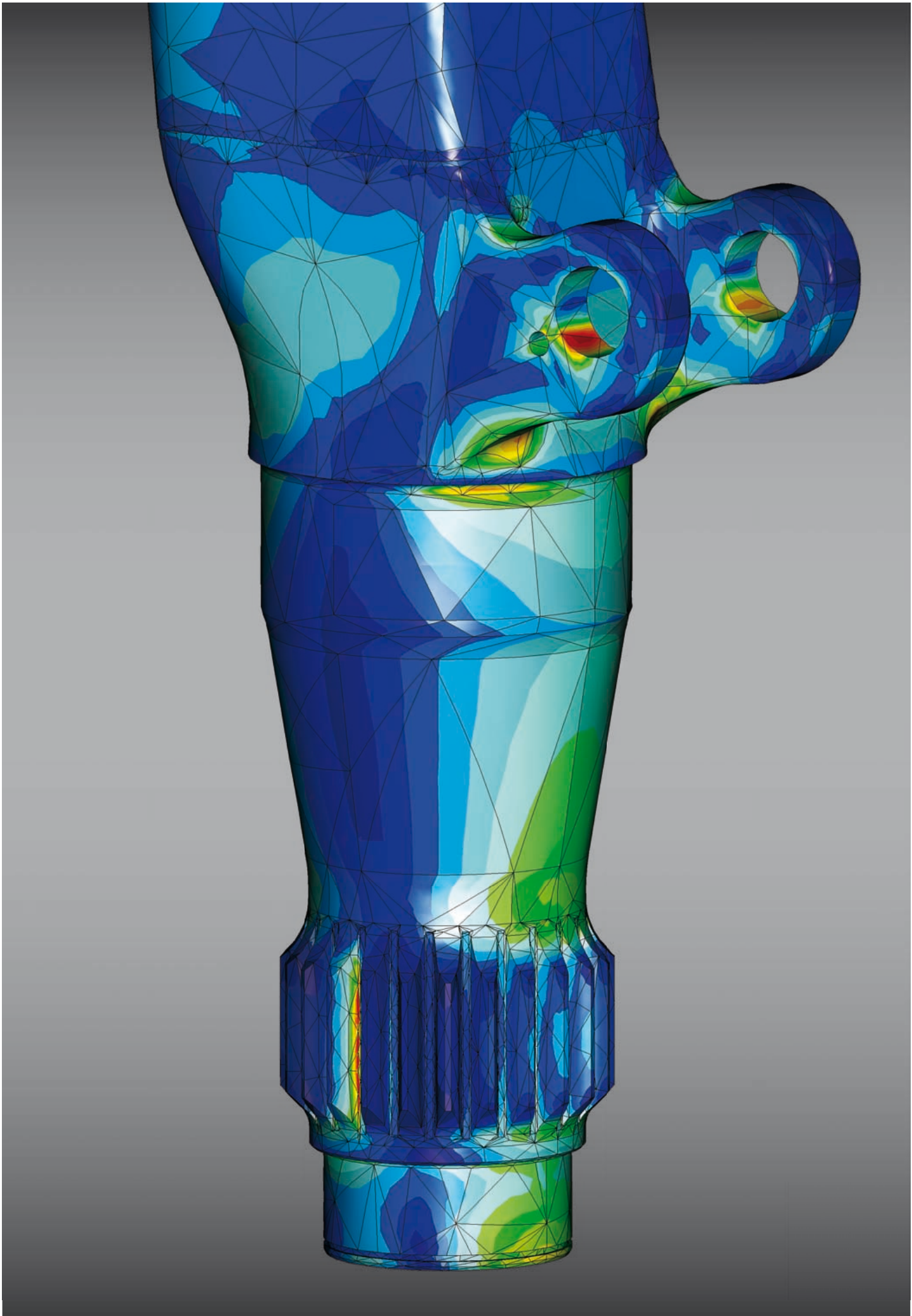
OPERATION TERMINAL ON HIGH SEAT

Indicator of the lifting capacity by LED signal light. Many further functions like speed +/-, motor on/off, lighting, seat heating, operation-hour counter and key switch for crane and stabilizer functions are included in this package as well.



ISC – INTEGRATED STABILITY CONTROL

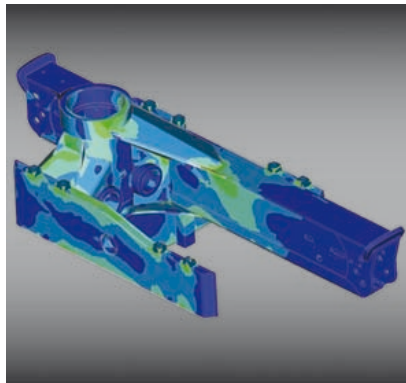
Position control by rotary encoder on crane column, as well as main boom supervision complement the optimized lifting capacity dependent on the slewing position (SHB). All sensitive elements are covered with a protective cap.



DEVELOPMENT

DURABILITY TEST

The foundation stone for a reliable and successful product is laid in the engineering. Finite element calculations, field and long time tests, strain gauge measurements with appropriate load spectrum ensure an ideal relation between weight and effort. At the center of attention are topics like ergonomics, functionality as well as improvement of weight and raw materials. A high engagement in research & development and cooperation with technical colleges form the base for several patents and perfect working geometry.



FINITE ELEMENT TECHNOLOGY

High-tech in crane construction:
With the finite element technology, all supporting elements have been calculated at EPSILON over years now – optimized with fine grained steel.



CONDITIONING CABINET

Important components of the crane, like control valve and electronic components, are tested in the conditioning cabinet, where they are exposed to extremely low or high temperatures.



EXPANSION MEASUREMENTS AND ENDURANCE TEST

By using expansion measurements and automatic endurance tests EPSILON cranes are tested for the expected service life even before the start of production and within a few months. The components are subjected to the harshest loads on modern hydropulser test benches to be able to offer top quality products. With this technology, it is possible for EPSILON to optimize components to meet the harshest customer demands.



PRODUCTION

PRECISION IS
OUR SECRET.
QUALITY OUR
PROMISE.

PALFINGER production plants invest permanently in new manufacturing technologies to upgrade the position as technology leader. EPSILON obtains about 80 % of the components from PALFINGER owned production plants. Quality and reliability of welding processes is guaranteed by certification of our welders and regular welding quality audits, carried out by external institutions. All production plants of PALFINGER are ISO certified. PALFINGER's core competences lie primarily in the production of security relevant welded constructions made of high strength fine-grain structural steels, high-tech hydraulic cylinders as well as sustainable durable surface coating technologies (KTL). In the matter of steel processing PALFINGER works on most of the production plants with innovative cutting, edging and welding technologies. Thanks to automated manufacturing technologies high strength fine-grain structural steels can be manipulated precisely.



CYLINDER PRODUCTION

Structural and production engineering expertise. PALFINGER is among the largest producers of hydraulic cylinders with approx. 300,000 cylinders a year leaving the Tenevo plant. PALFINGER coats its cylinders using a particularly high-quality galvanized nickel/chromium process.

SERVICE

PROJECT ENGINEERING

Experienced sales experts advise and support you when selecting a product and the configuration. For optimum vehicle design, the calculation of axle loads, stability and sub-frames EPSILON provides the right software to its dealer network before the sale.

MORE EFFICIENCY IN USE

- » More payload through optimized vehicle configuration
- » Low failure rates
- » Highest equipment availability

SAFE CRANE OPERATION

- » Safety through optimized superstructure calculation
- » Inclusion of country-specific traffic regulations

INCREASED RESALE VALUE

- » Customer-specific truck bodies through long-standing know-how
- » Longer equipment service life thanks to the spare parts guarantee and KTL-painting



RELIABLE SERVICE

With approximately 4,500 sales and service bases worldwide, EPSILON provides an extensive, unbeatable sales and service network. Quickly provided and professional help in service as well as an all-over range of original spare parts. Global player and nevertheless near the customer.



SPARE PARTS SUPPLY

Several spare parts centers worldwide guarantee a seamless supply of spare parts - in Europe within 24 hours. The spare parts warehouse for the areas of Europe, South America and Asia are found in Lengau. On the average, around 1,000 items are processed each day and handled competently and smoothly. The spare parts central warehouse for North America is in the PALFINGER plant in Niagara Falls / Canada. All original spare parts are tested and comply with the PALFINGER quality standard.





CRANE CONFIGURATOR

For more information about all the available crane models, options and auxiliary equipment please enter the product configurator under www.palfingerepsilon.com

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