

**STRONG ARGUMENTS.  
INNOVATIVE PALFINGER  
LOADER CRANE TECHNOLOGY  
FOR YOUR BENEFIT.**



[YOUTUBE SERVICE CHANNEL](#)

[PALFINGER CRANE RANGES  
SLD AND TEC](#)

**STRONG AND  
INNOVATIVE  
LOADER CRANES  
FOR YOUR BUSINESS**

**HOME**

EFFICIENCY IN USE

A GREAT VARIETY OF APPLICATIONS

OPERATOR-FRIENDLY

MAINTENANCE & SERVICE

SAFE CRANE OPERATION

INCREASED RESALE VALUE

DESIGN AND LOOK

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## **PALFINGER CRANE RANGES SLD AND TEC**



### **SLD – Solid Loader Cranes**

With the SLD-range, PALFINGER offers cranes with excellent lifting capacity for easy, everyday operations, such as unloading of pallets on construction site or grapple application with bulk material. Visually, crane models of the SLD-range can be recognized by the boom system with conventional hexagonal profile. Selected features, focusing on the specific application, complement the standard features, e.g HP-SC-Plus LOAD or a radio remote control.

The following options can be chosen for cranes of the SLD range:

- Radio Remote Control
- HPSC-Plus LOAD
- Soft Stop Slewing



## **LIFETIME EXCELLENCE**



### **TEC – Highest Technology for Maximum Performance**

The TEC-range offers powerful crane models for complex, specialized operations such as lifting jobs in great height or installation work with heavy loads. A visible feature is the polygonal P-Profile, which makes the boom extension system especially rigid and lightweight. In addition, the extension system of TEC-cranes is low in maintenance. For a customer optimized solution, the full range of comfort functions and assistance systems is available optionally. The whole TEC-range is equipped with a double linkage system and functional design.

TEC cranes can be equipped optionally with a range of comfort and assistance systems:

- Remote controlled stabilizers
- AOS
- P-Fold
- HPSC-Plus LOAD, GEOM, FSTAB
- DPS-Plus or DPS-C
- Rope winch assistance systems SRC and RTC
- MEXT, WEIGH, TOOL
- FPM (Fall Protection Mode)
- Smart Control













**INCREASED  
RESALE VALUE  
DUE TO...**

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**DESIGN AND LOOK  
DUE TO...**

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**PROCESS  
ORGANIZATION DUE TO...**

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# POWER LINK DOUBLE LINKAGE SYSTEM MORE POWER ON THE HOOK

## GENERAL

### Product Features

The linkage system is a special connection between the knuckle boom and main boom which increases the lifting power of the crane in the most important boom positions. The PALFINGER POWER LINK system is a double linkage system with a linkage on the knuckle boom and a linkage between the main boom and crane column.

### How It Works

On a crane without POWER LINK the distance between the bolts and cylinder pivot point changes during the motion sequence. Through this change, the crane loses up to 70% of its power. With POWER LINK this distance is always constant. Therefore constant lifting moment is achieved independent of the boom position.



# POWER LINK DOUBLE LINKAGE SYSTEM MORE POWER ON THE HOOK

## CUSTOMER BENEFITS

### More Efficiency in Use

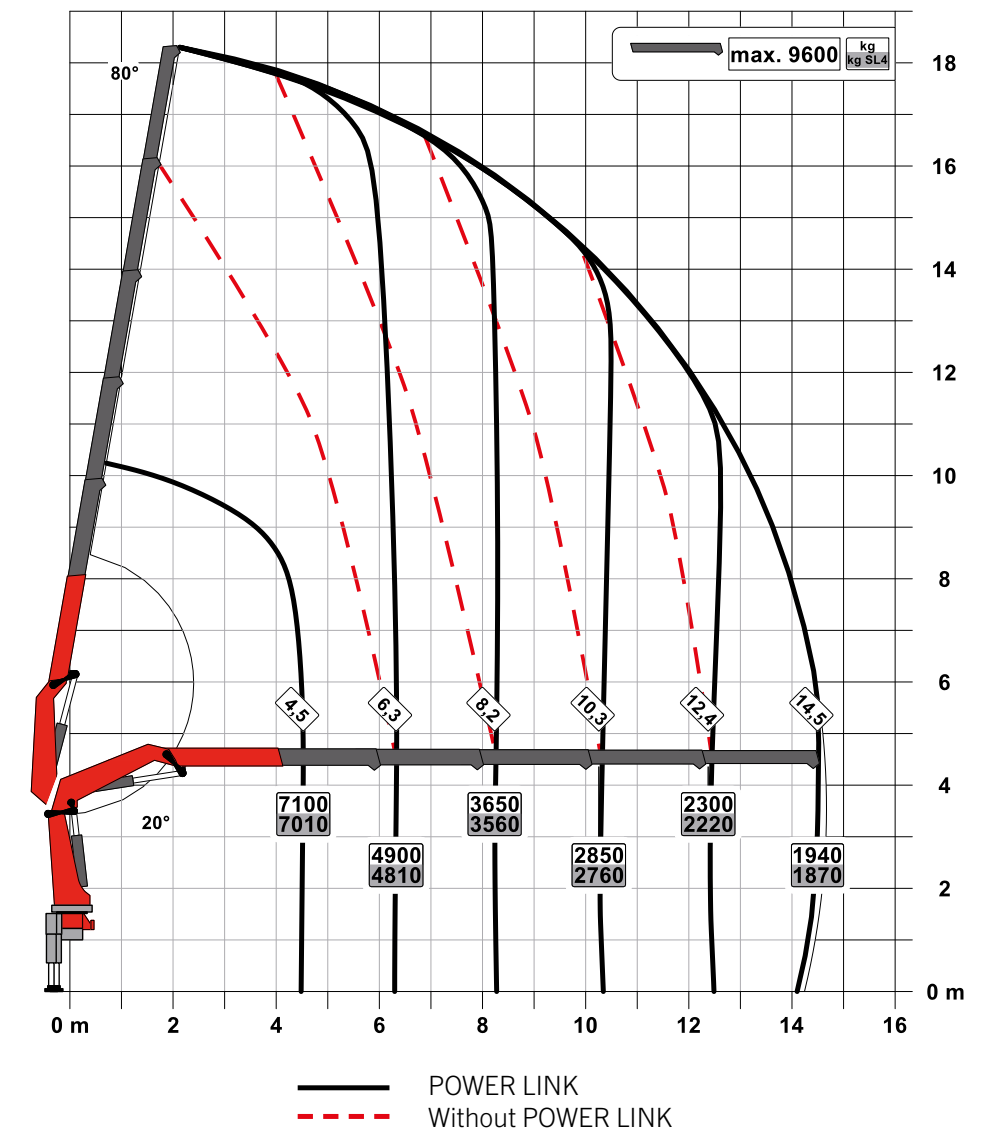
- The maximum load can be raised vertically. This way greater outreach is achieved with maximum load. (Load curves run vertically on the payload charts)
- The crane can lift the maximum load even when main boom and knuckle boom are one line
- Compact transport size through parallel folding up of the boom system

### A great Variety of Applications

- Larger operating radius (up to more than 180 degrees)
- Maximum load can be lifted even with main boom fully erected (this is the weakest position for non linkage cranes)
- Heavy and bulky loads can be brought close to the column

### Operator-Friendliness

- Easier crane operation due to constant speed during the whole movement





# SINGLE LINK PLUS POWER LINK PLUS A VARIETY OF USES FOR THE MOST DIFFICULT APPLICATIONS

## GENERAL

### Product Features

At PALFINGER, SINGLE LINK PLUS or POWER LINK PLUS mark the further development of the linkage system to the reverse linkage system. A PALFINGER development that is state of the art for modern truck-mounted cranes today. The knuckle boom can extend backwards up to 15°.

#### SINGLE LINK PLUS:

Reverse linkage system for single linkage cranes

#### POWER LINK PLUS:

Reverse linkage system for double linkage cranes

### How It Works

A completely new kinematics is achieved due to lengthening of the cylinder and a change to the linkage and the shape of the main components. As a result, it is possible for the knuckle boom to overextend over the horizontal line of the main boom.



# SINGLE LINK PLUS POWER LINK PLUS A VARIETY OF USES FOR THE MOST DIFFICULT APPLICATIONS

## CUSTOMER BENEFITS

### More Efficiency in Use

- The large range of movement of the knuckle boom up to 195° increases the efficiency of the truck-mounted crane's work
- The crane can be folded down on the loading deck extended without exceeding the legal vehicle height

### A great Variety of Applications

- The crane can perform work in limited spatial conditions (e.g. through window openings and doorways)
- Lifting can still be performed despite obstacles (e.g. between ceiling supports)
- Precise and accurate control due to constant speed during the whole motion cycle

### Maintenance and Service-Friendliness

- Inspection- and maintenance work on the boom system can be carried out more easily



# **PALTRONIC** **THE BRAIN** **OF THE CRANE**

## **GENERAL**

### **Product Features**

With the PALTRONIC, PALFINGER offers the latest control electronics for the series production crane. Different systems are available depending on the series and the range of functions.

The most important safety and comfort functions include:

- Overload cut-off
- Stability control (HPSC)
- High Power Lifting System (HPLS)
- Active Oscillation Suppression system (AOS)
- Dual Power System (DPS-C / DPS-Plus) in fly jib operation
- Synchronised Rope Control (SRC)
- Rope Tension Control (RTC)
- Assistance system (P-Fold)

### **How It Works**

The PALTRONIC controls and monitors the crane.

1. Pressure sensors on the cylinders send the capacity information of the crane to the PALTRONIC system.
2. Position sensors send information on the position of the boom system, the slewing gear or the stabilizer support to the PALTRONIC system.

Based on the incoming signals, the PALTRONIC system decides on deactivating or activating systems.



# PALTRONIC THE BRAIN OF THE CRANE

## CUSTOMER BENEFITS

### Operator-Friendliness

- Direct communication with the crane. Display of the utilization and overload directly on the operator's handset
- Full concentration on load handling through continuous monitoring of the crane

### Maintenance and Service-Friendliness

- Quick and easy troubleshooting through permanent status read-out on the display panel
- Recording of the crane status
- Quick and uncomplicated programming

### Maximum Reliability

- Tried and tested, proven technology
- Flawless coordination of the entire electronics structure from sensor system to software
- High resistance to vibrations and temperature fluctuations

### Safe Crane Operation

- Protection of the crane and its attachments against overloading
- Monitoring of the stability depending on the boom position and support situation



# RADIO REMOTE CONTROL EFFICIENT ONE-MAN OPERATION

## GENERAL

### Product Features

Today, radio remote controls are often considered to be standard equipment when it comes to modern loader cranes. PALFINGER radio remote controls are equipped with a choice of a linear lever or cross lever and provide the greatest possible comfort for the operator. For cranes with PALTRONIC, an LED respectively LCD or TFT colour display informs the crane operator of the different operating conditions. For crane models PC 1500 up to PK 4200 an individual pocket radio remote control is available. For all SH- and TEC 7-models we offer our in-house developed PALcom P7.

### How It Works

The remote control transmitter (handset) is responsible for transmitting the commands made on the levers as signals to the receiver. The receiver forwards the signals to the electronics, which convert them into crane movements by means of hydraulic control valves.



# RADIO REMOTE CONTROL EFFICIENT ONE-MAN OPERATION

## CUSTOMER BENEFITS

### More Efficiency in Use

- Efficient "one-man operation"
- Actuation of additional functions directly on the operating console
- The operator can see the crane load even when not standing near the crane

### Operator-Friendliness

- Individual operating elements (cross or linear lever) and carrying straps available
- Individual speed settings possible

### Maintenance and Service-Friendliness

- Quick troubleshooting through error code display
- Easy to replace transmission consoles

### Safe Crane Operation

- Possible to operate outside the danger zone
- Safety switch-off in the event of frequency overlap
- Alternative cable operation is available when working in areas where radio frequencies are not permitted (airports, hospitals,...)



# PALCOM P7 FATIGUE-FREE OPERATION

## GENERAL

### Product Features

The PALcom P7 is a radio remote control developed in-house by PALFINGER. The exclusive loader crane radio remote control handset features a modern, ergonomic design. The hand rests and set-up of the control levers are carefully chosen to enable fatigue-free work. A centrally located "PALdrive" knob and a large colour display enable a easy and safe operation. The "intelligent" charging station measures the charge level of the battery and temperature of the surrounding area, thereby facilitating a gentle and quick charging process. In addition, the charging station checks whether it and the battery are operating properly. The charging station also features a refresh function, which ensures full battery capacity throughout the entire service life of the battery.



# PALCOM P7

## FATIGUE-FREE OPERATION

### CUSTOMER BENEFITS

#### More Efficiency in Use

- Long operational time thanks to long battery life (up to 12 hours)
- Stable radio transmission thanks to frequency hopping

#### Operator-Friendliness

- Fatigue-free operation thanks to ergonomic design of the hand rests and control panels
- Optimum wearing comfort thanks to ergonomically shaped carrying straps

#### Safe Crane Operation

- Accidental crane movements are avoided thanks to a rollover- and acceleration sensor
- Better legibility of the control symbols in poor lighting conditions thanks to four LEDs
- High safety standard thanks to optical, acoustic and haptic feedback on the radio remote control handset

#### Environmental Friendliness

- Quick and gentle charging thanks to the intelligent charging station
- High battery lifetime thanks to the refresh function





# MENU NAVIGATION IN DIALOG WITH THE USER

## GENERAL

### Product Features

On the new PALcom P7 a central 4.1 inch TFT-colour display with transflective technology is used for the first time in the loader crane sector. Thanks to the “transflective” technology, the large display can be easily read, even in bright sunlight, but is still highly energy-efficient. A centrally arranged control knob “PALdrive” and an intuitive menu navigation with a large display offer easy and save operation. The operator is informed exactly about the different operating states and is guided clearly and safely at all times.



# MENU NAVIGATION IN DIALOG WITH THE USER

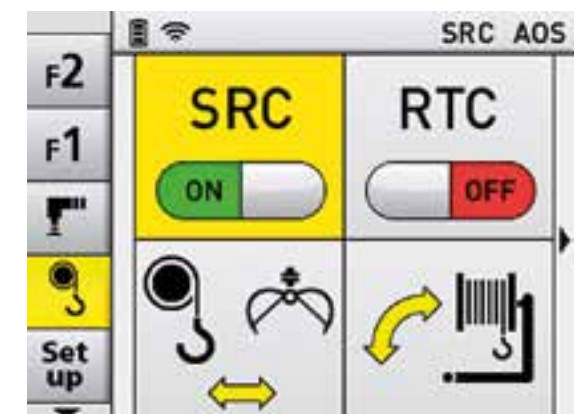
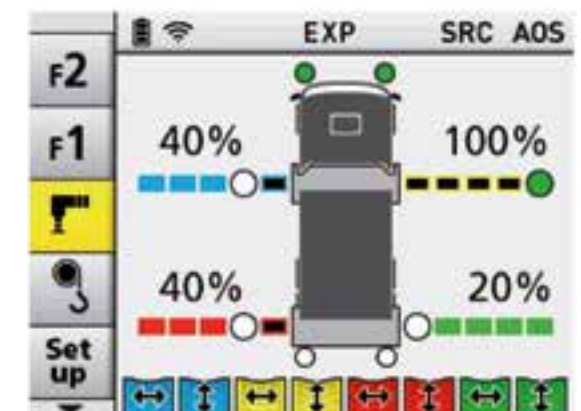
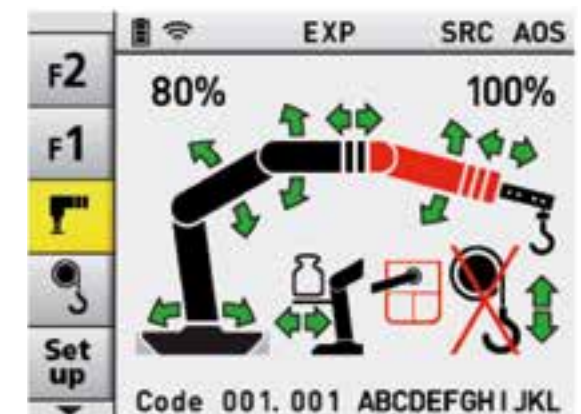
## CUSTOMER BENEFITS

### Operator friendly

- Easy and safe operation thanks to an intuitive menu with 4.1-inch TFT color display and "PALdrive" control knob
- Display is easily legible even in direct sunlight thanks to transfective technology

### Safe Crane Operation

- High safety standard thanks to optical, acoustic and haptic feedback on the radio remote control handset



# **PALFINGER CONNECTED** **MACHINE EFFICIENCY ON** **21<sup>ST</sup> CENTURY LEVEL**

## **GENERAL**

### **Product Feature**

We support our customers in modern fleet management with efficient solutions in form of two digital platforms, optimized for fleet managers and crane operators.

#### **FLEET MONITOR**

An overview of the fleet and tools for easier service and maintenance planning – these functions enable professional fleet management. By visualizing truck and crane, applications get even more efficient.

#### **OPERATOR MONITOR**

The app which is available for iOS or Android supports the crane operator in his or her daily business. Crane data like machine status or performance at current stabilization situation are available anytime. The mobile maintenance checklist and the job planning assistant complement the app.

#### **SERVICE COCKPIT**

The PALDESK application connects PALFINGER partner and end customers even more. The service partner gets an overview of products and end customers of his or her area of responsibility.



# PALFINGER CONNECTED MACHINE EFFICIENCY ON 21<sup>ST</sup> CENTURY LEVEL

## CUSTOMER BENEFITS

### More Efficiency in Use

- Fleet overview and visualization of crane applications allow the fleet manager to plan jobs efficiently.
- Display of performance in current stabilizer state allows for efficient crane jobs

### Operator-Friendliness

- Information concerning the status of the crane is available anytime.

### Maintenance and Service-Friendliness

- By monitoring truck and crane data, planning of service and maintenance is easier.

### Safe Crane Operation

- In case of errors, corrections can be performed immediately.



# SMART CONTROL INTUITIVE CONTROL

## GENERAL

### Product Features

Smart Control is the new boom tip control for the TEC 7 crane. With Smart Control, the operator can control a horizontal or vertical movement of the crane tip with only one lever. Moreover, a diagonal movement as well as any curve are possible by combining both directions. Slewing is controlled conventionally.

### How it Works

With Smart Control the operator defines where the crane tip will move, while the PALTRONIC combines the necessary crane section movements (main boom, knuckle boom, extension booms) in the background. One of the preconditions is the electrical oil volume regulator Flow Sharing, which ensures that several crane functions are provided with enough hydraulic oil. Length measurement system in the extension booms monitors the position of the crane. Parameters as deflection of the boom system or inclination of the truck (in combination with HPSC-Plus LOAD) are monitored and corrected by PALTRONIC for an even more precise control.



# SMART CONTROL INTUITIVE CONTROL

## CUSTOMER BENEFITS

### More Efficiency in Use

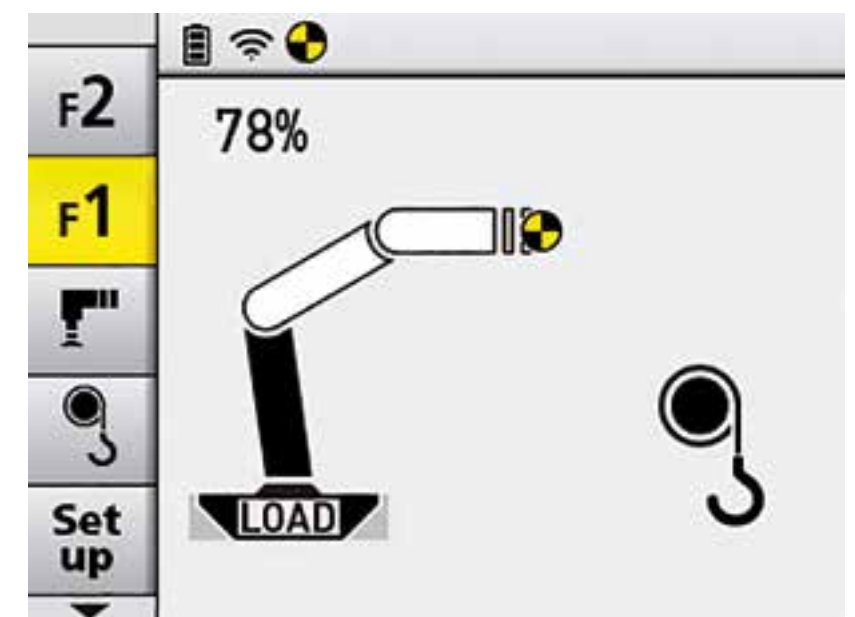
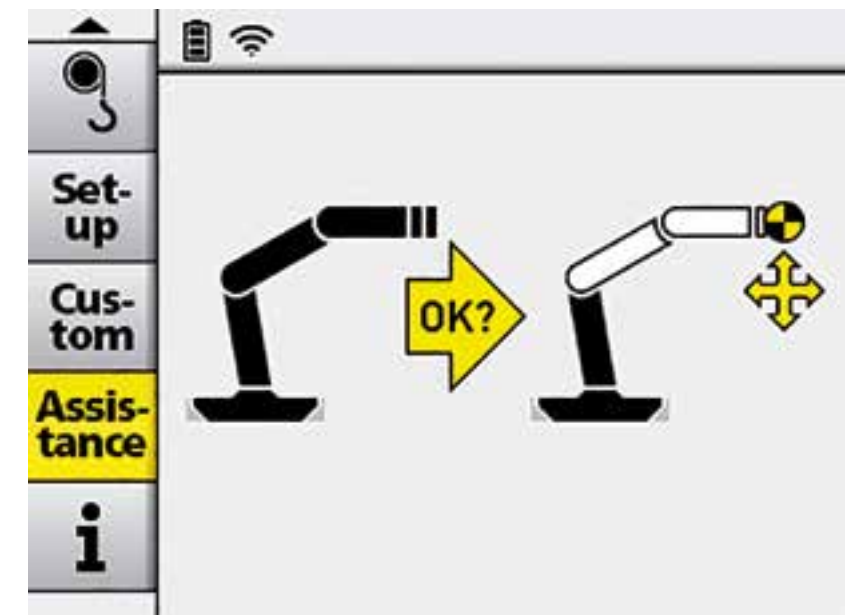
- Thanks to the intuitive type of control, training of new operators requires a shorter amount of time.
- Due to the fast working mode, economic efficiency of these applications is higher

### A great Variety of Applications

- Vertical lifting of underfloor container
- Horizontal distribution of bulk material with grapple
- Working through doors and windows
- Application of earth auger
- But also daily work (e.g. load and unload pallets, installation work, ...)

### Safe Crane Operation

- The intuitive operation prevents damages of the crane, load and environment by little trained operators – making crane applications even safer.



# P-FOLD

## PERFECTLY SET UP WITH FINGERTIP MOVEMENT

### GENERAL

#### Product Features

The P-Fold system also works in combination with the innovative RTC (Rope Tension Control). Both systems perfectly support the crane's set-up processes and thus reduce set-up times to a minimum. The operator will be guided safe and clearly thanks to the intuitive menu navigation of the new PALcom P7 – a major benefit also for inexperienced operators. In addition to the significant increase in operator comfort, the prevention of damage on vehicle, load and rope is another important point.

P-Fold is available for all TEC 7 models as well as for SH-models with PALcom P7 (PK 42002 SH – PK 200002L SH).

#### How It Works

##### 1. UNFOLDING WITH FINGERTIP MOVEMENT

After P-Fold is activated, the crane is set in motion by moving just one control lever. The intelligent control-system coordinates all the crane movements and fly jib movements until a defined working position is reached. In combination with RTC, the winch will also be controlled fully automatically by P-Fold.



##### 2. FOLDING WITH FINGERTIP MOVEMENT

After the job is finished, the crane can be folded from any working position. P-Fold again coordinates all crane movements including the fly jib functions. The operator controls the innovative system with just one control lever until the crane has reached its final transport position.

## P-FOLD

# PERFECTLY SET UP WITH FINGERTIP MOVEMENT

### CUSTOMER BENEFITS

#### More Efficiency in Use

- Time saving through automated folding and unfolding of the crane.

#### Operator-Friendliness

- Easy and intuitive operation thanks to the PALcom P7 radio remote control.
- Higher comfort through automated folding and unfolding of the crane.

#### Safe Crane Operation

- Prevention of damage to vehicle or crane during folding and unfolding.





# AOS ACTIVE OSCILLATION SUPPRESSION MAXIMUM PRECISION AND SAFETY

## GENERAL

### Product Features

The patented PALFINGER ACTIVE OSCILLATION SUPPRESSION (AOS) system dampens the boom system of the crane, compensating for vibration and shock, even after a sudden stop of the lifting function. The result is a significant increase in safety in crane operation for operator, loads and surrounding areas.

### How It Works

AOS receives pressure readings from special sensors mounted at both the top and bottom of the main lifting cylinder. The system then sends inputs to each side of the control valve spool to counteract the pressure peaks. This raises and lowers the main lift cylinder very quickly and matches the frequency and amplitude of the oscillating boom. As a result, the boom is dampened to the point where only one or two small oscillations occur, bringing the boom to an immediate standstill.



# AOS

## ACTIVE OSCILLATION SUPPRESSION

### MAXIMUM PRECISION AND SAFETY

#### CUSTOMER BENEFITS

##### More Efficiency in Use

- Experienced crane operators can move the crane much faster with pinpoint accuracy
- Helps and avoids damage to the load, truck and surroundings

##### A great Variety of Applications

- Adjustments can be made with the touch of your fingers
- Emptying “concrete buckets” without post-oscillation

##### Operator-Friendliness

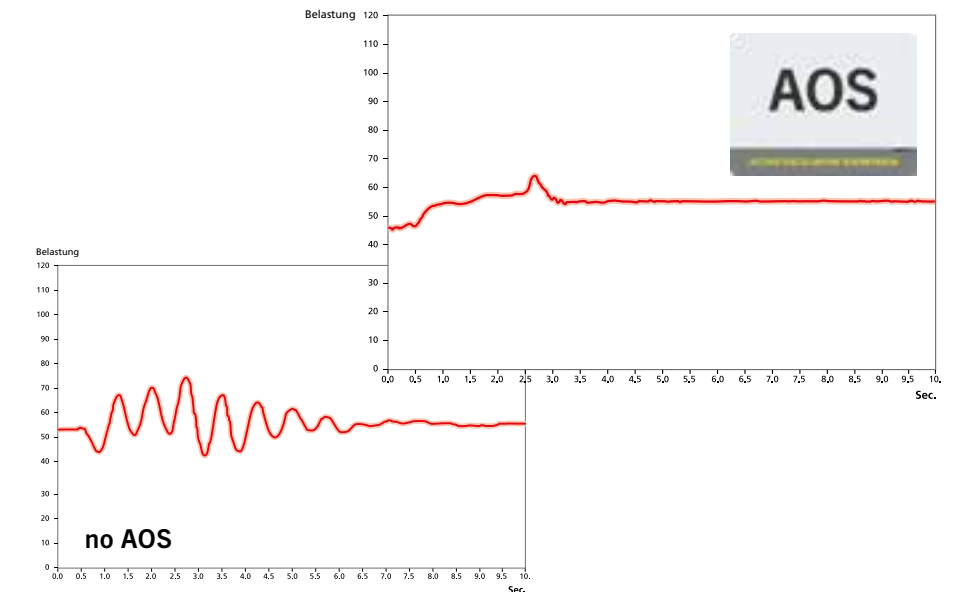
- Beginners can operate the crane with more precision and care
- Experienced crane operators can move the crane much faster without having to compromise precision and sensitivity

##### Safe Crane Operation

- Loads are held steady, rather than bouncing after abrupt stops
- No uncontrolled movements of the boom system in the event of unloading
- Helps to prevent collisions between the boom system and the building or other surroundings
- Increased stability, reduction of stabilizer support loading

##### Increased Resale Value

- The boom experiences much less stress, which reduces wear and tear on the entire vehicle



# HPLS HIGH POWER LIFTING SYSTEM MAXIMUM POWER, WHEN IT IS REALLY NEEDED

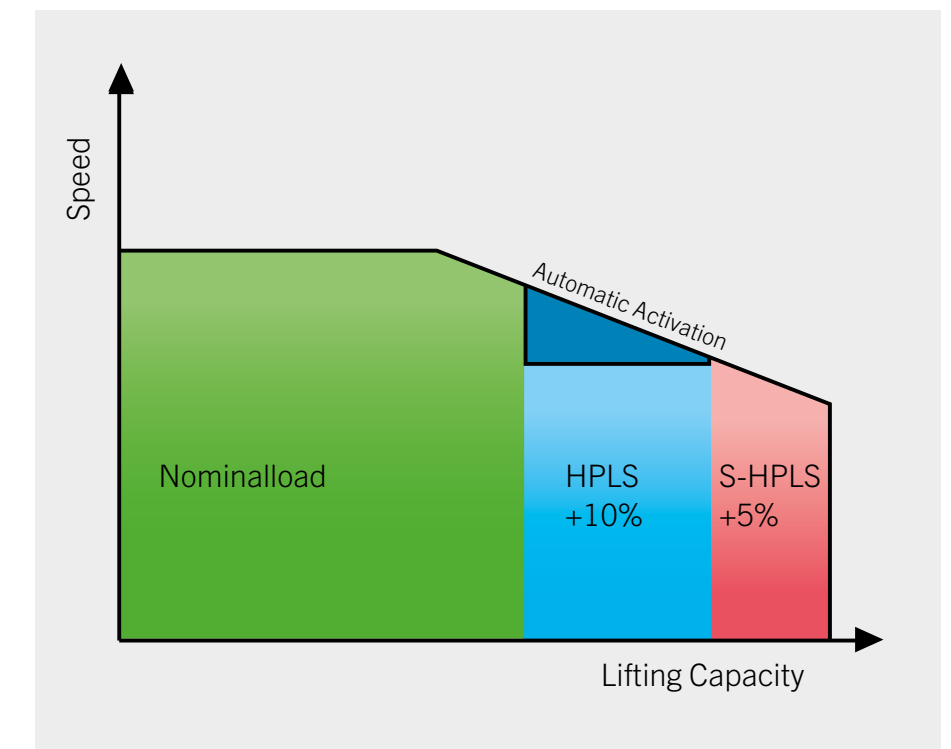
## GENERAL

### Product Features

The PALFINGER High Power Lifting System (A-HPLS or S-HPLS) increase the capacity of the crane by up to 15% with reduced working speed. Both systems are activated fully automatically: A-HPLS for cranes of the SLD-range, S-HPLS for cranes of the SH- and TEC-range. There is continuous activation depending on the power which is required.

### How It Works

If HPLS is activated, then the hydraulic pressure is increased electronically. That way, a higher payload can be achieved. At the same time, the speed is reduced by the electronics system.



# HPLS HIGH POWER LIFTING SYSTEM MAXIMUM POWER, WHEN IT IS REALLY NEEDED

## CUSTOMER BENEFITS

### More Efficiency in Use

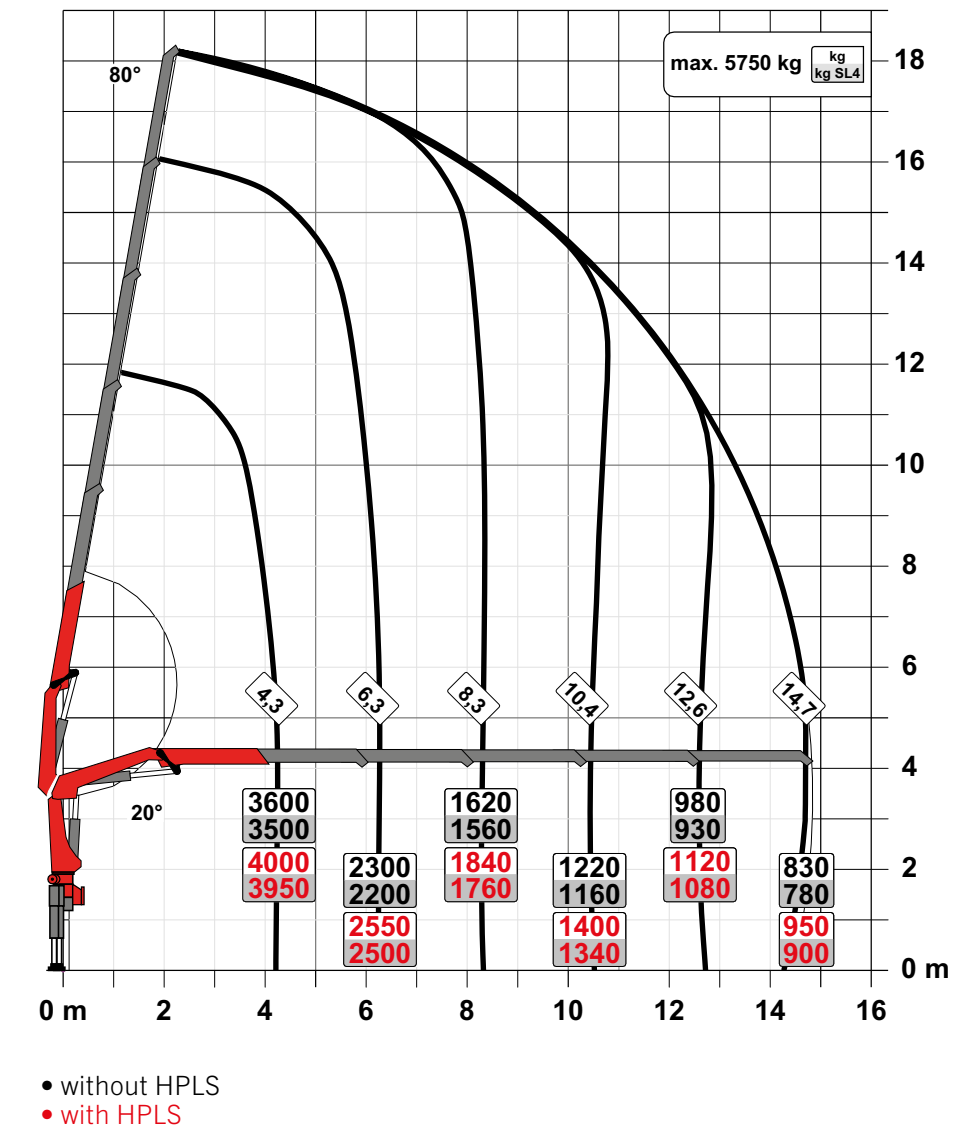
- Increased lifting power of the crane
- Better lift-to-weight ratio
- Each function is slowed by different amounts, so that less critical functions like boom extend/retract can still run close to normal speed

### Operator-Friendliness

- The reduced speed allows for accurate positioning of heavy loads

### Increased Resale Value

- The service life of the crane is prolonged by reduced dynamic loading of the crane structure



# HPSC HIGH PERFORMANCE STABILITY CONTROL INTELLIGENT STABILITY CONTROL

## GENERAL

### Product Features

High Performance Stability Control (HPSC) is a proportional system which recalculates and defines the working range and stability of the crane. Sensors for proportional path measurement are located in the stabilizers making their positioning fully variable.

### How It Works

The HPSC system calculates and defines the permissible working range for any stabilizer situation. The position of the stabilizer support is detected by means of cable extension transducers or magnetostrictive position sensors located in the outrigger. Based on an intelligent calculation algorithm developed by PALFINGER, this complex calculation process enables a very accurate approximation to the vehicle's actual stability based on the crane and vehicle's real data.



# HPSC HIGH PERFORMANCE STABILITY CONTROL INTELLIGENT STABILITY CONTROL

## CUSTOMER BENEFITS

### More Efficiency in Use

- Optimal use of the possible working range
- Maximum lifting capacity at any point of the stability control curve

### A great Variety of Applications

- Crane operation is also possible where space is restricted

### Operator-Friendliness

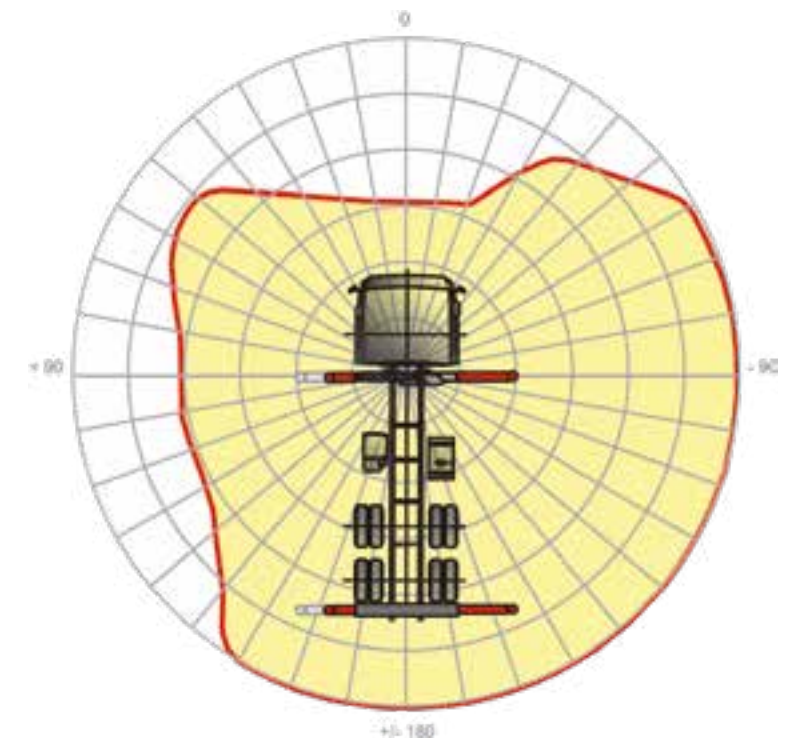
- Highest operator comfort thanks to clearly laid out display on the operator's console or on the display of the radio remote control

### Maintenance and Service-Friendliness

- Easy maintenance using the PALDIAG diagnosis software

### Safe Crane Operation

- An automatic shut-off will occur if outriggers or load are in a compromising situation



HPSC

# HPSC-PLUS LOAD MORE OUTREACH DUE TO LOAD DETECTION

## GENERAL

### Product features

PALFINGER has developed the proved stability system HPSC further and offers application- oriented additional functions in a modular system. One of the modules of this HPSC-Plus concept is HPSC-Plus LOAD. It reacts to the loading condition of the truck and calculates on the basis of the inclination the maximum load limit suitable for the respective situation.

### How It Works

In addition to the stability load limit which is defined by HPSC, there is now a second load limit which considers the inclination as a technical indicator for an increase of the stability. HPSC and LOAD complement each other perfectly and ensure that in every situation the best performance of the crane is reached at full stability. Regardless of whether the vehicle is empty, partially loaded or fully loaded, HPSC and LOAD take over the tasks of the stability monitoring automatically where necessary. The operator does not need to switch the LOAD module on or off separately.



# HPSC-PLUS LOAD MORE OUTREACH DUE TO LOAD DETECTION

## CUSTOMER BENEFITS

### More Efficiency in Use

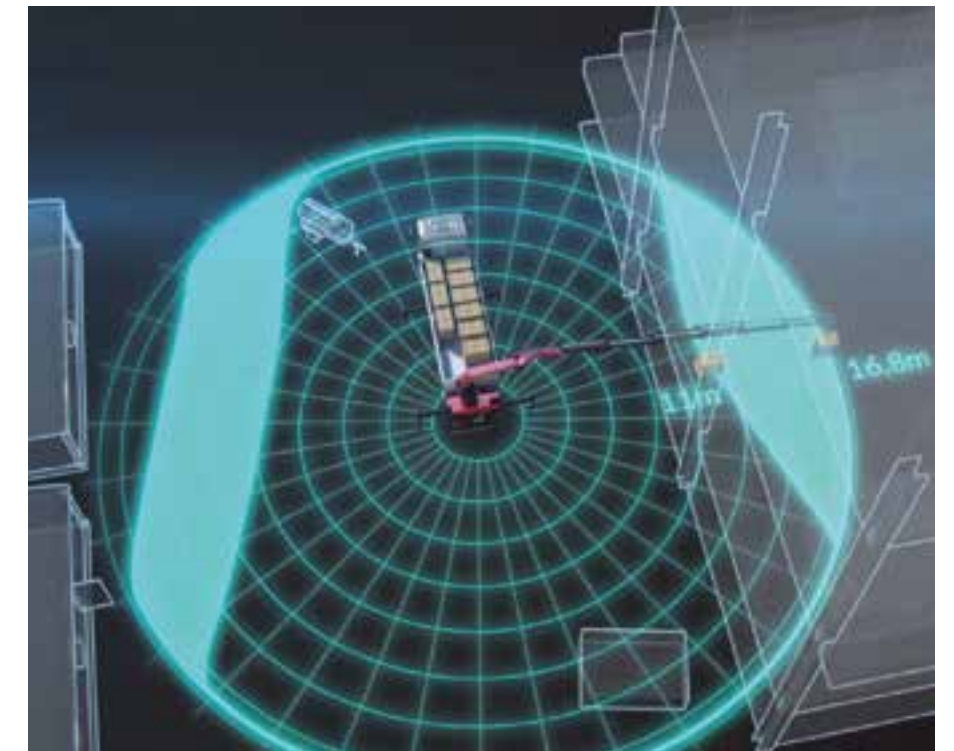
- Optimal utilization of the working range depending on the load (empty, partially loaded or fully loaded). The inclination is then used as an additional indicator for the increase of the crane performance.

### Operator-Friendliness

- The operator does not need to switch the LOAD module on or off separately
- Current status query directly on the radio remote control

### Safe Crane Operation

- No matter if HPSC or LOAD is active. The stability is always calculated automatically by the electronic overload system of the crane



PK 34002 SH R3X rear mounted on a 3-axle chassis with additional stabilizers Stabilizer spread 66%





# HPSC-PLUS GEOM

## MORE LIFTING POWER DUE TO LENGTH MEASUREMENT SYSTEM

### GENERAL / CUSTOMER BENEFITS

#### Product Features

The module HPSC-Plus GEOM allows a precise calculation of the center of gravity of boom system and load, thanks to length measurement system. With the knowledge of these two parameters, PALTRONIC can calculate the crane boom's position precisely. This results in an increase in lifting power in case of not fully extended stabilizers, especially for not fully extended boom system.

#### More Efficiency in Use

- The crane's full power is used, if the boom system is not fully extended.
- Optimal utilization of the working range, even in case of narrow spaces.

#### Safe Crane Operation

- Stability of the crane is guaranteed either by HPSC or the module GEOM.



# HPSC-PLUS FSTAB ENHANCED PERFORMANCE THANKS TO STABILIZER FORCE DETECTION

## GENERAL / CUSTOMER BENEFITS

### Product features

The module HPSC-Plus FSTAB monitors the force on stabilizer cylinders. This module shows its strengths in situations with narrow space and high loading on the truck – especially with heavy, bulky loads which have to be handled near to the crane column.

### More Efficiency in Use

- By measurement of the actual stabilizer force, the working area can be used optimal even with narrow space and high loading on the truck.

### Safe Crane Operation

- Depending on whether the stability limit or the overload limit (stabilizer) is reached first, HPSC or HPSC-Plus FSTAB are reacting.



# LOW MAINTENANCE EXTENSION SYSTEM MINIMUM MAINTENANCE AND SERVICE WORK

## GENERAL

### Product Features

With the low maintenance extension system, PALFINGER leads the way in service-friendliness. The use of sliding elements made from special synthetic material, together with the highly dependable KTL cataphoretic dip painting, means that the operator no longer needs to grease the boom system.

### How It Works

The sliding elements are molded from special synthetic material and have self-lubricating properties. No further servicing is required after the first, initial lubrication, in which food grade grease is used. All other elements (slide rails, slide blocks, etc.) operate without grease. These elements have only a secondary function as sliding elements; they are primarily employed as adjustment and guiding elements. Special synthetic materials are also used for the paint in order to protect against corrosion.



# LOW MAINTENANCE EXTENSION SYSTEM MINIMUM MAINTENANCE AND SERVICE WORK

## CUSTOMER BENEFITS

### More Efficiency in Use

- No pollution of the work area and the transported goods by dripping lubricants; no subsequent costs

### Maintenance and Service-Friendliness

- No greasing of the extension system by the operator
- No greasing of the sliding block in the guide rails

### Operator-Friendliness

- Smoother operation of the extension

### Design and Looks

- Clean appearance of the extension system and the entire crane vehicle

### Increased Resale Value

- Reduction in service time and maintenance costs
- Longer service life due to less wear and tear

# SOFT STOP MORE SAFETY AND CONVENIENCE

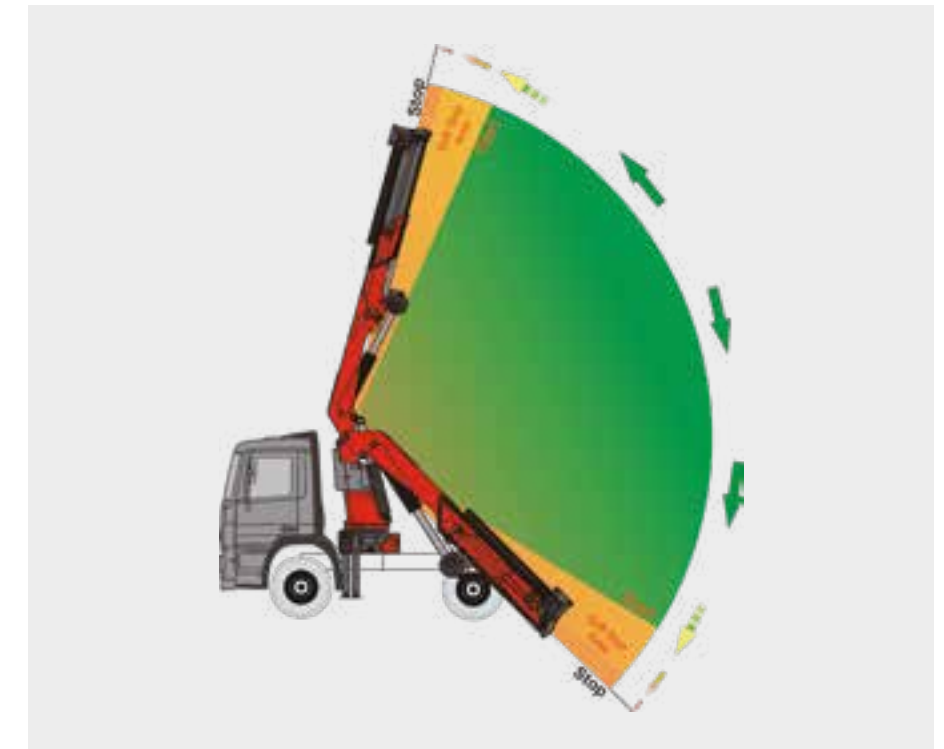
## GENERAL

### Product Features

Soft Stop is an electronic limit position damper. It provides gentle braking of all crane movements before the mechanical limit stop is reached. Hence, jerky movements and load impacts from oscillating loads can be avoided for the protection of the crane operator, load and vehicle. Soft Stop is standard for cranes of the SH- and TEC-range. For cranes of the SLD-range, the option Soft Stop Slewing is available, which dampens slewing motions.

### How It Works

The movement sensors facilitate a slow approach of the movements to the limit stop. The approach to the limit stop is dampened by means of a ramp function. The ramp functions reduce the movement speed within a defined angle to a preset minimum value with which the limit stop can then be approached.



# SOFT STOP MORE SAFETY AND CONVENIENCE

## CUSTOMER BENEFITS

### More Efficiency in Use

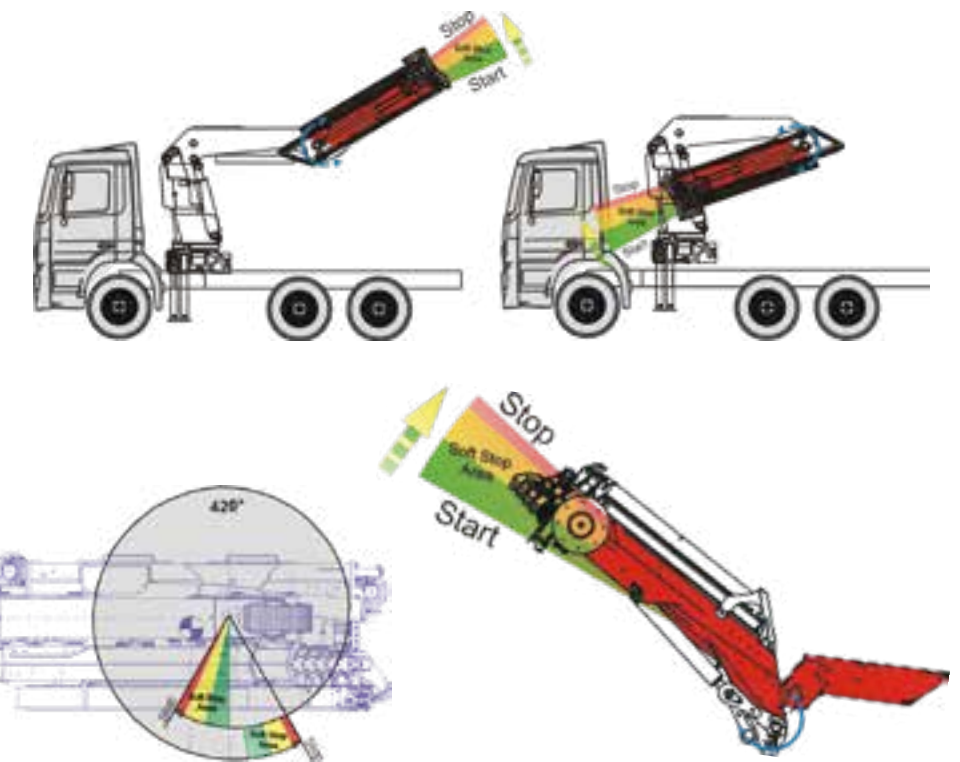
- Faster crane operation with pinpoint accuracy
- No damage to load, crane, vehicle or buildings
- Less loading of the crane structure

### Operator-Friendliness

- High accuracy and sensitivity of the crane
- Beginners can operate the crane with more precision and care
- Experienced crane operators can move the crane much faster with pinpoint accuracy

### Safe Crane Operation

- No "post-oscillations" of the load - immediate stoppage
- Dropping of the load is prevented
- Precise and accurate control due to constant speed
- Increased stability, reduction of stabilizer support loading



# MEXT MONITORING OF MECHANICAL EXTENSIONS

## GENERAL / CUSTOMER BENEFITS

### Product Features

MEXT allows a TEC 7 crane to monitor one or two mechanical extensions and to include them into overload protection. After choosing, whether one or two mechanical extensions are being used, the maximal performance of the crane is adapted to the maximal lifting capacity of the extension.

### A great Variety of Applications

- Mechanical extension on the crane or fly jib provide more outreach and allow therefore for additional applications.

### Safe Crane Operation

- An overloading of the mechanical extension cannot occur.



# WEIGH CRANE AS A SCALE

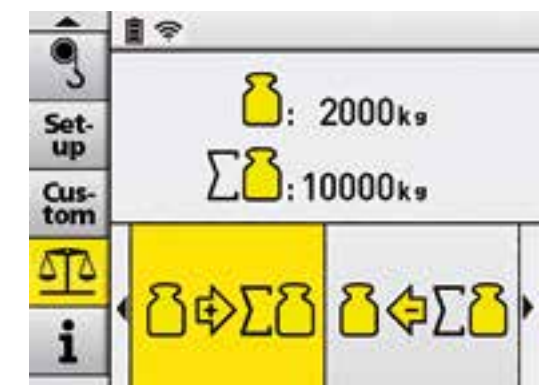
## GENERAL / CUSTOMER BENEFITS

### Product Features

WEIGH allows the crane operator to weigh the load directly with the crane. The crane has to be tared, after which the radio remote control PALcom P7 shows the current weight. More-over, it is possible to sum up weights and to have a look at the ten latest weighing operations, including date and time.

### More Efficiency in Use

- A certain weight can be validated anytime.
- To weigh and to sum allows reproducing loading and unloading operations.





# HIGH SPEED EXTENSION (RETURN OIL UTILIZATION)

## GENERAL / CUSTOMER BENEFITS

### Product Features

The HIGH SPEED EXTENSION is a standard feature at PALFINGER. Also referred to as RETURN OIL UTILIZATION, this feature is a regenerative hydraulic circuit for the extension booms. It speeds up the boom extension and retraction functions by up to 30%.

### How It Works

The return oil from piston rod side is not sent to the tank but will be diverted via the load holding valve into the pressure lines. Due to the increase in oil flow, the cylinder movement is increased and hence extension speed is also increased.

### More Efficiency in Use

- Crane works faster and therefore more efficiently by reducing load cycle times



with return  
oil utilization



without return  
oil utilization

# FPM FALL PROTECTION MODE

## GENERAL / CUSTOMER BENEFITS

### Product Features

If no stationary safety measures such as scaffolding or safety eyebolts are available on the property during work at height, PALFINGER offers an efficient solution for securing people using the loader crane with its fall protection mode (FPM). This makes it possible to work freely in exposed areas.

### Safe Crane Operation

- Automatic speed reduction with activated FPM
- Operation by a second person (Crane driver)
- Only one crane movement possible (Single Movement)

### Great variety of applications

- Crane can be used as attachment point (only in exceptional cases)

### TECHNICAL REQUIREMENTS

- Available only for SH, TEC 5 and TEC 7 cranes
- Only under consideration of the DACHS directives



# COATING TECHNOLOGY

## TOP QUALITY SURFACE PROTECTION AT A GLANCE

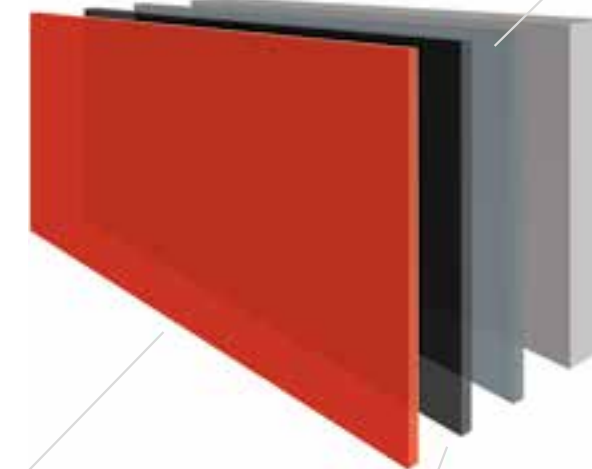
### GENERAL

#### Thorough pretreatment

A properly prepared surface is essential for a high-quality coating. Sand-blasting and degreasing ensure the best possible finish.

#### Complex Tri-cationic phosphating

In the automotive industry too, tri-cationic phosphating (zinc, nickel and manganese) is the process typically employed to achieve the very highest standard and offers the best "substrate" for paints and a high level of corrosion resistance.



#### Eco-friendly top coat

Latest-generation eco-friendly, solvent-free acrylic-water top coat and powder coating with a high degree of surface hardness ensure maximum weather resistance.

#### Protective Cathodic dip painting

Unique KTL process with years of experience and environment-friendly energy consumption, thanks to the exclusive low temperature process.



# COATING TECHNOLOGY TOP QUALITY SURFACE PROTECTION AT A GLANCE

## CUSTOMER BENEFITS

### Increased Resale Value

- Cranes with coating technology retains a higher resale value

### Design and Looks

- Automotive quality paint finish
- The coating is elastic, abrasion-resistant and UV resistant
- High impact resistance and temperature resistance

### High Value Retention

- Long-life surface protection
- Excellent corrosion protection of all components
- Perfect cavity protection

### Environmental Friendliness

- Use of environmentally friendly paint



# P-PROFILEE

## MAXIMUM STABILITY UP TO THE TIP

### GENERAL

#### Product Features

The drop shaped P-Profilee is characteristic for all PALFINGER TEC cranes. Due to the unusual profile, the boom extension system is especially high in torsional strength and light weight.

#### How it Works

In contrast to the conventional six edges of the hexagonal profile, the P-Profilee is offering a large number of edges, allowing for a very efficient application of force. Due to self-lubricating materials, the extension boom systems of knuckle boom and fly jib are low-maintenance.



# P-PROFILEE

## MAXIMUM STABILITY UP TO THE TIP

### CUSTOMER BENEFITS

#### More Efficiency in Use

- The minimized deflection of the boom system enables precise and fast working.

#### Maintenance and Service-Friendliness

- No need for greasing in between service appointments.

#### Environmental Friendliness

- Thanks to the low maintenance execution of the boom system, load, working space and crane stay clean. Moreover, the small amount of lubricants has positive effects on the environment.



# INTERLOCK SYSTEM INNOVATIVE OUTRIGGER SAFETY SYSTEM

## GENERAL

### Product Features

PALFINGER cranes are equipped with an innovative outrigger safety system for manual stabilizer supports that prevent the outrigger from extending if a locking device fails.

### How It Works

The handle is turned, which raises the main locking pin. A secondary lock is turned simultaneously, releasing the catch allowing the outrigger to be pulled out. When the outrigger is pushed back in, the main locking pin is automatically locked and the secondary lock is turned back to the locked position. The turning of the handle is blocked mechanically by means of a safety latch. Optionally, the position of this latch can be monitored with a proximity switch, so that up to four safety features would be incorporated into this one system.



# INTERLOCK SYSTEM INNOVATIVE OUTRIGGER SAFETY SYSTEM

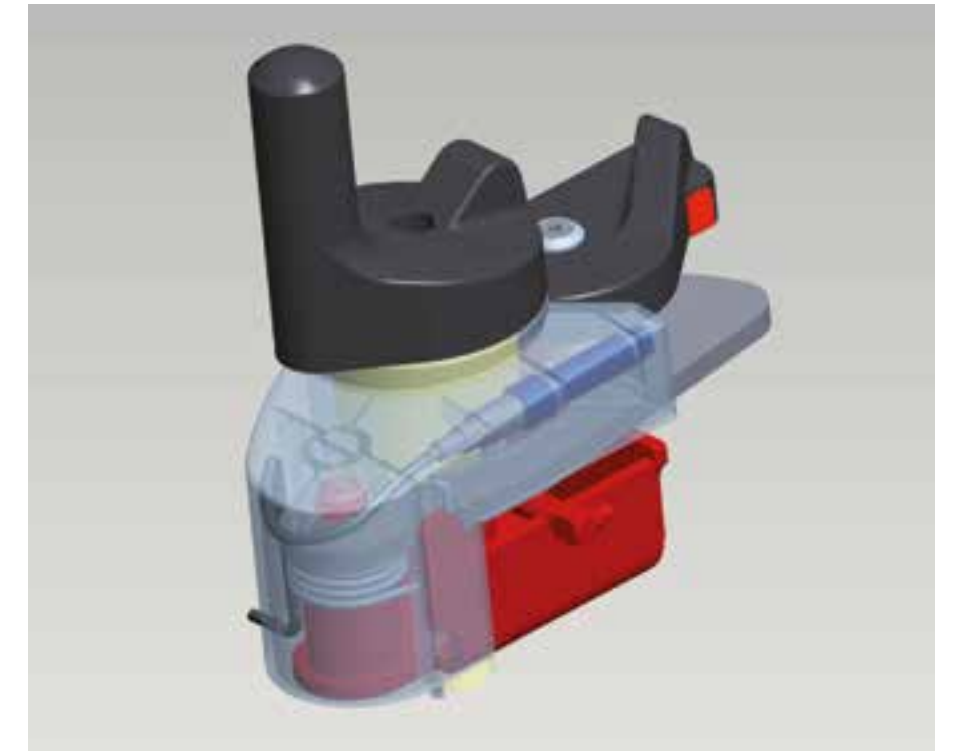
## CUSTOMER BENEFITS

### Safe Crane Operation and Transport

- Four features in one system
  - locking pin
  - arresting hook (secondary lock)
  - safety latch
  - monitoring of the safety latch
- No independent extension of the outrigger possible
- Warning and acoustic signal in the cab indicating position of outriggers

### Operator-Friendliness

- Easier and faster deployment of outriggers
- Easier and faster stowage of outriggers
- Single-handed operation, even with gloves





# HYDRAULICALLY TILTABLE STABILIZERS EASY HANDLING

## GENERAL

### Product Features

The stabilizer cylinders of the crane can be slewed upwards fully hydraulically by 180°. The stabilizer cylinders can be actuated on the control console, and also optionally on the radio remote control.

### How It Works

Small and medium cranes:

A separate hydraulic cylinder creates a turning motion by means of a gear rack and gear wheel. This upward slewing function is combined hydraulically with the retraction/extension function of the supporting cylinder.

Large cranes:

The supporting cylinder is connected to an eccentric rod that uses the force of the retracting or extending supporting cylinder to slew the supporting cylinder upwards or downwards. It is very easy to operate and does not require a separate hydraulic function. The eccentric rod is equipped with a removable pin. Removing the pin allows a full retraction of the piston rod and thus more ground clearance.



# HYDRAULICALLY TILTABLE STABILIZERS EASY HANDLING

## CUSTOMER BENEFITS

### More Efficiency in Use

- The crane can be mounted in a space-saving way directly above axles, tanks or toolboxes
- Longer cylinder strokes for optimum stabilizer support in different situations
- Outstanding ground clearance for optimized clearance angle and slope angle
- Stabilizer support of the crane possible despite obstacles. Guard rails, walls or fences can be overcome

### Operator-Friendliness

- No separate operation necessary. The tiltable slewing function is combined with the retraction/extension function of the supporting cylinder
- No manual tiltable slewing of the supporting cylinder necessary



# STZYM MECHANICALLY TILTABLE STABILIZERS

## GENERAL / CUSTOMER BENEFITS

### Product Features

For all cranes of the SLD range as well as TEC crane up till 40 mt, there is a new version of mechanically tilttable stabilizers. Thanks to a gas pressure spring, this version is 180° tilttable.

### More Efficiency in Use

- Less space required on the truck

### Operator Friendliness

- Reduced physical effort for the operator



# TILTABLE STABILIZER PLATES

## GENERAL / CUSTOMER BENEFITS

### Product Features

All stabilizers are equipped with a 10° tiltable stabilizer plate on a ball joint as a standard feature.

### How It Works

The enlarged stabilizer plates of the supporting cylinder are moveable and facilitate better adaptation to the ground.

### Safe Crane Operation

- Optimum adaptation of the stabilizer plate to the respective ground
- The enlarged plate reduces ground pressure



# CONTINUOUS SLEWING SYSTEM UNRESTRICTED MOVEMENT

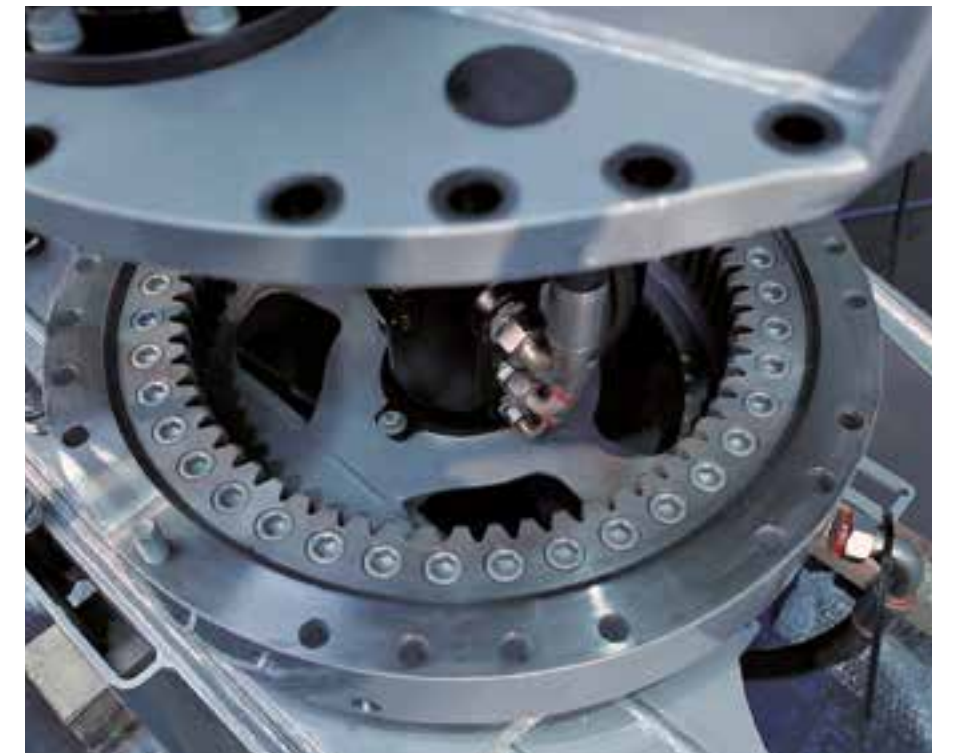
## GENERAL

### Product Features

The PALFINGER Continuous Slewing Mechanism permits an unrestricted radius of action. The crane is rotated or 'slewed' using a gear box and hydraulic motor rather than a rack and pinion system. All endless slewing mechanisms come as standard with a high quality roller ball bearing.

### How It Works

A hydraulic motor drives a pinion which meshes with a base-mounted high quality roller ball bearing, rotating the crane. The gears are precision machined to minimize back lash between the gears. The roller ball bearing is made with very tight tolerances for width, flatness, and perpendicularity. The matching surfaces on the base and the column are machined in a single clamping for the highest possible accuracy. On larger cranes two identically sized slewing motors are set across from each other on the column. One motor is hydraulically preloaded against the other, which eliminates all backlashes in the rotation system.



# CONTINUOUS SLEWING SYSTEM UNRESTRICTED MOVEMENT

## CUSTOMER BENEFITS

### **More Efficiency in Use**

- Faster cycle times because the crane can be slewed over a shorter distance. The crane works more efficiently and faster
- Higher slewing moment through minimized friction in the slewing mechanism

### **A great Variety of Applications**

- Crane can be used independent of the vehicle position
- Load handling also possible in tight spatial conditions

### **Safe Crane Operation**

- Safe and smoother operation due to elimination of catching endstop
- Accurate positioning of loads due to low clearance on slewing mechanism

### **Maintenance and Service-Friendliness**

- Very little maintenance is needed on the ball bearing slewing ring

### **Increased Resale Value**

- Longer service life of the slewing system because of the ball bearing slewing ring

# INTEGRAL BASE FRAME PERFECT INTEGRATION

## GENERAL

### Product Features

PALFINGER large cranes can be equipped with an integral base frame as a standard feature or an option depending on the crane size. Since the crane can be mounted directly onto the truck frame, there is a weight and height reduction.

### How It Works

The integral base frame is designed so that it protects the truck against the forces that occur from crane operations as part of the sub-frame. The crane sits directly on the truck frame. The sub-frame itself is then fastened to the integral base frame in the form of a closed, torsion-resistant box.



# INTEGRAL BASE FRAME PERFECT INTEGRATION

## CUSTOMER BENEFITS

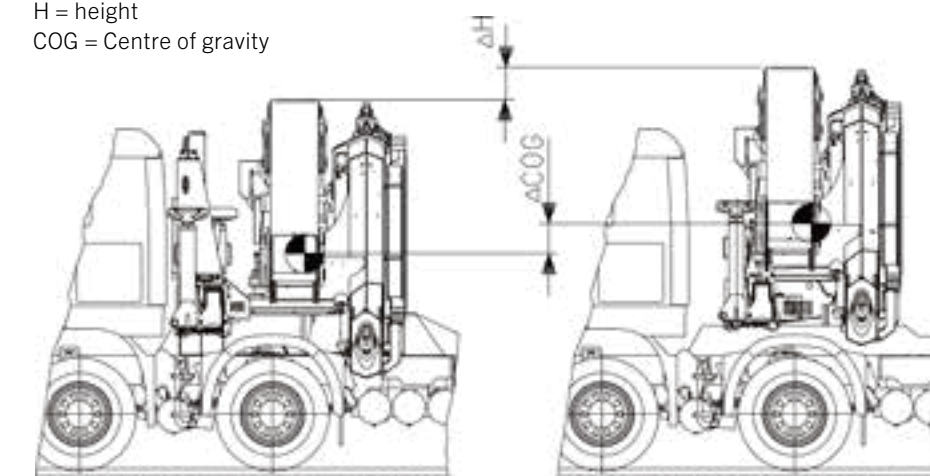
### More Efficiency in Use

- Very low overall installation height and hence more possible applications in limited spatial conditions
- Due the weight savings, higher payloads can be transported
- A torsion-resistant construction reduces the spring-back during crane work

### Safe Crane Operation

- Increase of the stability through low centre of gravity

H = height  
COG = Centre of gravity



Integral Base

Standard Base



# FUNCTIONAL DESIGN FUNCTION AND DESIGN REDUCED TO A COMMON DENOMINATOR

## GENERAL

### Product Features

A good design must primarily fulfill its purpose, i.e. it should fulfill the function of the component the best way possible. moreover, it must be possible to use it easily, ergonomically and economically. PALFINGER knows how to combine the functionality with individuality - through the use of new materials, shapes, colors and detailed solutions.

One example is the internal hose routing between main boom and knuckle boom. This patent pending solution provides protection against dirt and damage.



# FUNCTIONAL DESIGN FUNCTION AND DESIGN REDUCED TO A COMMON DENOMINATOR

## CUSTOMER BENEFITS

### Operator-Friendliness

- Functional design elements increase the operator comfort

### Maintenance and Service-Friendliness

- Functional design elements simplify service and maintenance

### Design and Looks

- Besides the functional benefits, there is a priceless image and advertising effect that comes with an optically high-quality product

### Increased Resale Value

- Long-term value retention through protection of sensitive components and a modern appearance

### Safe Crane Operation

- Functional design elements protect the operator against incorrect operations



# CONTROL PANEL LIGHT

## GENERAL / CUSTOMER BENEFITS

### Product Features

The control panel of the High Performance / TEC models can be equipped with LED lighting and backlit symbols.

### How It Works

LEDs in the hand-lever guard illuminate the entire control panel. They make it easier to read the machine functions and give the crane operator a quick general overview during the work process.

### Operator-Friendliness

- Illumination of the entire control panel
- Very good visibility of the integrated operating symbols

### Safe Crane Operation

- Safety and comfort, even with poor visibility



# WARNING LIGHTS ON THE STABILIZERS

## GENERAL / CUSTOMER BENEFITS

### Product Features

The LED warning lights on the stabilizer cylinders are used for better visibility of the stabilizers.

### Safe Crane Operation

- Better visibility of the outrigger position and stabilizer cylinder
- Safety for the crane operator, passers-by and flowing traffic



# INTEGRAL TANK

## GENERAL / CUSTOMER BENEFITS

### Product Features

The tank integrated on the base frame helps to save space. No additional installation space is required on the vehicle.

The special form of the oil tank for TEC cranes with rack and pinion slewing system allows even an integration of the oil cooler directly into the tank.

### More Efficiency in Use

- Space saving assembly



# OIL COOLER OPTIMAL TEMPERATURE

## GENERAL / CUSTOMER BENEFITS

### Product Features

PALFINGER oil coolers are offered from 8.5 kW to 20.0 kW depending on the crane size. They are light and compact and can be fastened directly to the base frame with a protective bracket. The coolers are mounted on the base frame as a standard feature for package cranes.

### More Efficiency in Use

- Longer service life of the oil, seals, valves and other hydraulic components through lower oil temperature
- A smaller tank can be used for the same crane type. This way weight is saved
- The crane can be operated in a very hot climate and with high load cycles



# OIL LEVEL AND OIL TEMPERATURE DISPLAY

## GENERAL / CUSTOMER BENEFITS

### Product Features

Through the oil level and oil temperature display, the crane operator is informed of the respective status.

### How It Works

Oil level display

At 25% of the total volume, a warning "Oil level low" appears. An acoustic signal is also given.

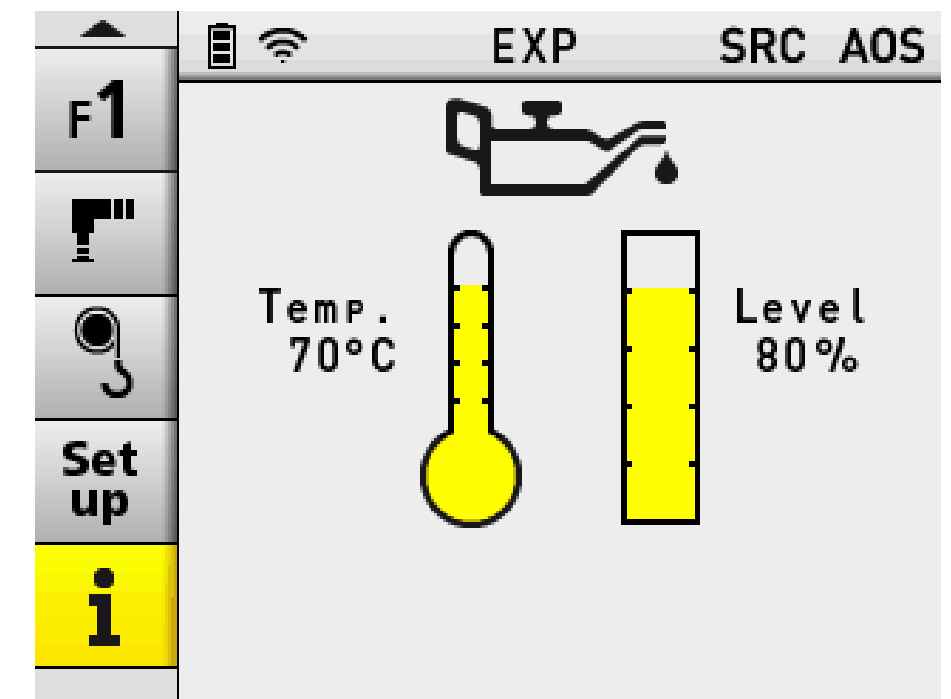
At 20% of the total volume, the crane is switched off after the warning.

Oil temperature display

At 75°C oil temperature, there are visual and acoustic warnings. At 90°C oil temperature, after the warning, there is a message that the crane will be switched off after five minutes.

### Safe Crane Operation

- Protection against overheating of the oil and hence protection of the entire hydraulic system



# DIGITAL HOUR COUNTER

## GENERAL / CUSTOMER BENEFITS

### Product Features

The digital hour counter shows operation hours of crane and rope winch.

The display informs the crane operator of:

- the total operating hours of the rope winch
- the operating hours until the next service

### Maintenance and Service-Friendliness

- Easy to read off the total hours
- Display of the hours until the next service





# LOAD SENSING CONTROL VALVES PRECISION CONTROL

## GENERAL

### Product Features

PALFINGER only uses control valves that were developed in cooperation with premium manufacturers for the requirements of PALFINGER. As a result, there is a perfect interplay between the electronics and hydraulics, and maximum safety, comfort and functionality is guaranteed.

### How It Works

The job of a control valve is to make it possible to control and monitor one or more hydraulic functions at the same time. Here, it is possible to accurately move each actuator (cylinder, motors, etc.) independently of the other connected unit.



# LOAD SENSING CONTROL VALVES PRECISION CONTROL

## CUSTOMER BENEFITS

### More Efficiency in Use

- Faster work cycles by controlling several functions at the same time
- High availability through maintenance and service-friendly design (sandwich construction)
- In connection with a variable displacement pump, LS valves ensure the highest energy efficiency

### Operator-Friendliness

- Sensitive and precise control for delicate installation work
- No mutual interference of the movements through independent pressure compensators
- Joint development with PALFINGER for customized solutions for the control of truck-mounted cranes



# FLOW SHARING

## GENERAL / CUSTOMER BENEFITS

### Product Features

Flow Sharing is an electronically controlled flow distribution of the hydraulic oil, which allows better regulation of multi-function controllability as well as a reduction of oscillation.

### How it Works

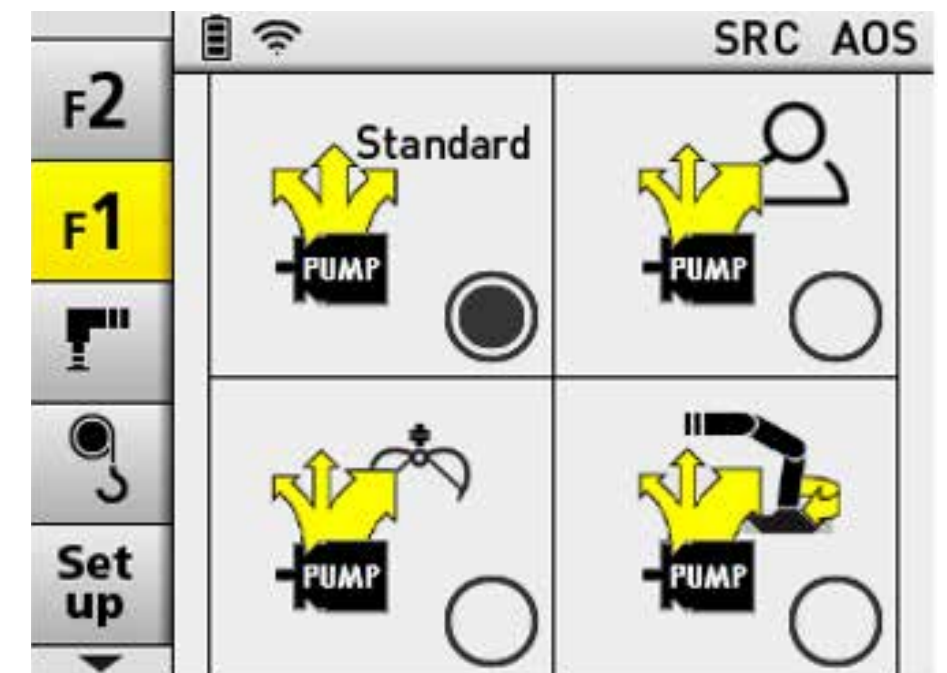
It ensures that a standstill of a crane function does not occur, even when several functions are used simultaneously. Depending on the settings, some functions are reduced to optimize a full functionality of the crane.

### More Efficiency in Use

- Operations become even more precise and fast
- “Standard” or “custom” are two of up to five available modes, which enable an efficient setting for every operation.

### Operator Friendliness

- No still standing of a function, the crane executes all movements which are given by the operator



# HOSE EQUIPMENT

## GENERAL / CUSTOMER BENEFITS

### Product Features

With the hose equipment, it is very easy to connect additional attachments (fly jib, rotator, ...). The hoses are either installed and protected in hose trays or alternatively routed in the extension boom system with a hose drum on the main boom.

### More Efficiency in Use

- Hoses protected by energy chains or routed internally
- Large diameter for high displacements and less heat generation

### Operator-Friendly

- Error free connectors as per EN 12999:2011
- Hoses can be assembled easily via quick release coupling



# FLY JIB SYSTEM MORE POSSIBLE APPLICATIONS FOR YOUR TRUCK-MOUNTED CRANE

## GENERAL

### Product Features

A fly jib system extends the working range of the crane and thereby increases the possible areas of application. The same crane can be used with or without the fly jib and can therefore be adapted for different applications. Applications with additional attachments (grabber, rotator) and/or cable winch are possible. The higher the quality of the technical configuration of the fly jib, the more efficient the application of the crane regarding the lifting power and outreach. The high competence of PALFINGER in lightweight construction is applied here directly in performance. Through a multitude of model variations, PALFINGER offers a complete, highly developed fly jib system series for cranes from 15 to 150 meter tonnes.

### How It Works

A fly jib is a removable, hydraulic extension on the end of the extension system of the crane that can be tilted through a hydraulic function. A fly jib can also be moved under load.



# FLY JIB SYSTEM MORE POSSIBLE APPLICATIONS FOR YOUR TRUCK-MOUNTED CRANE

## CUSTOMER BENEFITS

### More Efficiency in Use

- Improvement of the movement geometry of the crane
- Lightweight construction for optimized lifting capacity
- Compact construction with low overall height

### A great Variety of Applications

- Additional, very high knuckle point for working above building edges
- Additional working area as the fly jib can be angled upwards 25 degrees
- Increase in the outreach of the crane
- Higher outreach on the fly jib due to up to 6 hydraulic extensions



# DPS DUAL POWER SYSTEM MORE LIFTING POWER IN EVERY POSITION

## GENERAL

### Product Features

The Dual Power System (DPS-Plus or DPS-C) enables an increase of lifting power on the fly jib. This makes it possible to use the full lifting power of the fly jib even on crane jib combinations with very high outreach.

### How DPS-Plus Works

The fly jib can be operated with two pressure ranges. If the last extension boom of the crane is extended (normal operation), the lifting power will be reduced to protect the crane against overloading. If the last extension boom of the crane is retracted (activates DPS-Plus), the system will switch automatically to the high-pressure range, thereby using the full lifting power of the fly jib.

### How DPS-C Works

C stands for “continuous”, as DPS-C maximizes lifting power due to continual measurement of the current position of the boom system. In contrast to DPS-Plus, not only the position of the crane boom system is important, but also the position of fly jib extension system.

While DPS-Plus uses two positions and therefore two pressure ranges, DPS-C chooses continuously the optimal pressure range. This is possible due to length measurement system monitoring the exact position of the boom system of crane and jib. DPS-C enables optimal fitting power in all positions.



Therefore, DPS-C has even positive effects on lifting capacity in case of fully extended crane and jib.





# ROPE WINCH

## ADDITIONAL POSSIBLE APPLICATIONS FOR YOUR TRUCK-MOUNTED CRANE

### GENERAL

#### Product Features

A rope winch is in many cases the most important equipment for the operation of a loader crane. Hence the power of the winch itself determines the efficiency of the entire crane to a great extent. During the design process, the greatest possible attention was paid to the lifting capacity, speed and optimum winding behaviour. A complete series consisting of 1.5t, 2.5t, 3.5t and 4.5t winches is available thereby offering the ideal combination with the respective crane class.

#### How It Works

By using an axial piston motor, both very high starting torque under load as well as very high rope speed are achieved. The installation of the motor and brake as a unit inside the drum produces very compact dimensions.



# **ROPE WINCH**

## **ADDITIONAL POSSIBLE APPLICATIONS FOR YOUR TRUCK-MOUNTED CRANE**

### **CUSTOMER BENEFITS**

#### **More Efficiency in Use**

- High lifting power
- High starting torque makes it possible to start-up the rope winch under full load
- Rope lengths up to 90 meters make it possible to work with the fly jib or in 4-line cable winch operation
- Reduced oil heating hence longer work cycles are possible
- Quick solutions for overcoming large lifting heights up to 50% higher, in comparison to conventional winches

#### **Operator-Friendliness**

- Better coiling of the rope through special grooving of the drum
- Use of the tried and proven mechanical solution for extension stop and limit switch

#### **Increased Resale Value**

- Optimized corrosion protection thanks to coating technology

# POWER LINK ROPE WINCH MORE CONVENIENCE IN ROPE WINCH OPERATION

## GENERAL

### Product Features

The POWER LINK rope winch, a hydraulic, hinged rope winch on the main boom, sets new standards in connection with convenience, simplification of work and time saving in rope winch operation.

### How It Works

Instead of mounting directly on the main boom, the rope winch is mounted on a hinged bracket. This bracket is brought into the work position from the transport position hydraulically. A linkage system is used to redirect the linear cylinder movement (Power Link). It is operated by radio remote control.



# POWER LINK ROPE WINCH MORE CONVENIENCE IN ROPE WINCH OPERATION

## CUSTOMER BENEFITS

### More Efficiency in Use

- Low installation height during transport with folded up crane boom
- Low installation height when operating the cable winch
- Compact design

### A great Variety of Applications

- Also possible to use crane inside buildings

### Operator-Friendliness

- Quick start-up
- Easy operation with the radio remote control



# RTC - ROPE TENSION CONTROL REDUCING SET-UP TIME

## GENERAL

### Product Features

The new RTC (Rope Tension Control) system is an automatic rope tensioning device that helps to fold and unfold the crane. This is a further innovation from PALFINGER that will significantly shorten the set-up time.

### How It Works

The Rope Tension Control can be activated or deactivated as required via the remote control, which is included as standard. All that needs to be done is for the rope to be clamped into the rope fixing point and secured via a rope securing bolt.

If any crane movements are performed that affect the rope length, the innovative system automatically adjusts the rope length to match.

The RTC system is controlled by the Paltronic of the PALFINGER crane.



# RTC - ROPE TENSION CONTROL REDUCING SET-UP TIME

## CUSTOMER BENEFITS

### More Efficiency in Use

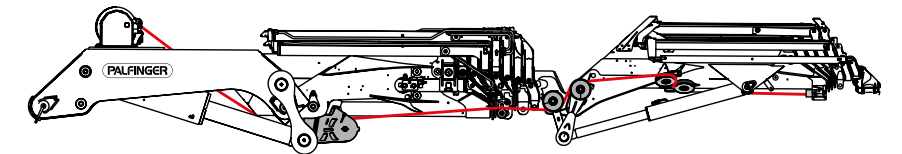
- Temporary hook operation with fly jib and reeved-in rope is possible. The time-intensive process of removing the rope is no longer necessary

### Operator-Friendliness

- The crane operator is free to focus all attention on the process of folding and unfolding the crane, without constantly having to worry about adjusting the rope

### Safe Crane Operation

- Rope damage is avoided



# SRC - SYNCHRONISED ROPE CONTROL MORE COMFORT IN ROPE WINCH OPERATION

## GENERAL

### Product Features

The SRC (Synchronised Rope Control) system maintains a constant distance between the pulley head and the hook block. This advantage is particularly valuable in terms of ease of use for the operator, and it also noticeably improves the efficiency of any operation.

### How It Works

Sensors in the pulley head detect the movement and forward the signals directly to the Paltronic. If the SRC is activated, it automatically keeps the distance between the pulley head and the hook block constant during any crane movements that increase or decrease the rope length. A sensor on the pulley head detects that a rope length decreasing movement is being performed, when the boom is being extended. If the knuckle boom or fly jib is lowered, the SRC also adjusts the rope winch to keep a constant distance between the hook block and the pulley head.



# **SRC - SYNCHRONISED ROPE CONTROL MORE COMFORT IN ROPE WINCH OPERATION**

## **CUSTOMER BENEFITS**

### **More Efficiency in Use**

- The load attached to the winch can be traversed horizontally at a constant height
- The load attached to the winch can be traversed at a specific angle
- The loading cycle is significantly improved

### **Operator-Friendliness**

- The crane driver can focus all attention on the actual crane movements

### **Safe Crane Operation**

- Particularly for less experienced crane operator, the system offers great assistance when working with the rope winch
- Avoidance of damage to the rope or load
- The hook block is prevented from running onto the pulley head



# COMFORT CABLE ROUTING

## GENERAL / CUSTOMER BENEFITS

### Product Features

The lateral routing of the rope for the rope winch (Comfort Cable Routing) on crane/fly jib combinations represents a major benefit in terms of comfort and time savings during set-up.

### How It Works

On all fly jib combinations, the rope of the winch is now routed laterally. It is no longer necessary to take off guide pulleys or intermediate pulleys when the crane is folded for transportation. The pulley head can also remain at the end of the boom and is simply moved to a special stowage position. And – last but not least – the rope itself can always remain reeved in when folding and unfolding the crane.

### More Efficiency in Use

- Significant shortening of set-up times



# HIGH STAND

## GENERAL / CUSTOMER BENEFITS

### Product Features

The high stand is presented with numerous detailed improvements - complete in line with the High Performance design and configurations used by PALFINGER. It complies with the new crane standard EN 12999: 2011 and is available alternatively for front and rear mounting.

### Operator-Friendliness

- Ergonomic operating levers on the control console increase working convenience
- Very good visibility of the integrated operating elements
- Payload chart for the respective crane version

### Safe Crane Operation

- Complies with crane standard EN 12999:2011
- Telescopic railings for convenient access and optimum work safety



# GEOMETRY CONTROL

## GENERAL / CUSTOMER BENEFITS

### Product Features

Modern knuckle-boom cranes reach critical boom positions due to their complex geometry (multitude of hydraulic outriggers, reverse linkage system, and fly jib). To increase operating convenience and avoid incorrect operations, PALFINGER expanded the existing upright position monitoring to include extensive monitoring of the whole working range (geometrically calculated).

### How It Works

The monitoring of the whole working range (geometrically calculated) adjusts the lifting power of the crane to the respective position of the main boom, knuckle boom and fly jib and fulfils all the provisions of EN 12999:2011. As a complex overloading limitation, it detects all boom angles of the crane and activates an individual shut-off logic depending on the crane model and configuration.

### Safe Crane Operation

- Automatic adjustment of the lifting power in critical boom positions
- Safe working possible up to 85° boom position
- Minimization of the risk of incorrect operations
- Automatic consideration of the fly jib overextension



# SEQUENCE CONTROL

## GENERAL / CUSTOMER BENEFITS

### Product Features

To achieve weight-optimized construction, several or all extension booms on a crane must have sequence control. This means that first the larger extension boom extends or retracts and only then the next smaller extension boom. The patented tube-in-tube sequence control with oil feed-through is technically the perfect solution to achieving a hose-free system.



# EQUIPMENT DIVERSE APPLICATIONS FOR DAILY USE

## GENERAL

### Product Features

The PALFINGER range of equipment includes a multitude of devices and add-ons that considerably expand the scope of applications of the crane. Grippers, rotators, crane forks and much more are available. All accessories from the PALFINGER Equipment Centre are optimized to be added to the PALFINGER truck-mounted crane and are therefore the first choice.

Besides an extensive range of standard products, special solutions are also available on request.

### A great Variety of Applications

- A crane can be used as a multipurpose work machine
- All from one hand - one contact person for crane and equipment
- PALFINGER Warranty & Service



# EQUIPMENT DIVERSE APPLICATIONS FOR DAILY USE

## CUSTOMER BENEFITS



Rotator



Earth auger



HPX-Grapper systems



Digging bucket



Bulk material grab



Polyp grab



Barrier grap



Hydraulic wallboard forks



Crane fork



Brick stack grap

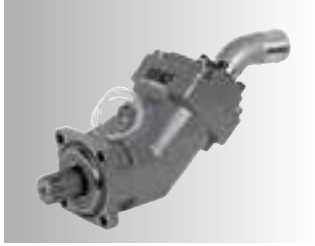


Manipulators



Workman basket

We want to ensure that our lifting solutions deliver their promised performance at the highest possible level. For this reason, PALFINGER offers a broad spectrum of mounting accessories in order to meet the usual high availability and serviceability as well as the well known lifting performance.



Pumps



Additional stabilizer



Mounting Accessories

# MFA MULTIFUNCTIONAL ADAPTER

## GENERAL / CUSTOMER BENEFITS

### Product Features

A variety of available working tools characterizes the PALFINGER loader crane with P-Profilee (TEC range) as multifunctional working device, fitting perfectly for every application. In order to facilitate the change between the various applications and to make it more ergonomic, PALFINGER has developed MFA, short for multifunctional adapter. The standardized interface at the crane tip helps reducing the manual effort for change of equipment.

### More Efficiency in Use

- Efficient change between different tools.

### A great Variety of Applications

- Different working tools allow the usage of the loader cranes for different jobs.

### Operator-Friendliness

- Minimum effort is required when changing attachments.



# PJM020 MFA-JIB

## GENERAL / CUSTOMER BENEFITS

### Product Features

To expand the possible applications of the TEC loader crane – this is also a goal of the MFA-Jib: more than 5 meters of additional outreach and the possibility to overcome interfering edges are the main advantages of the PJM020. If configured with a pulley head, even rope winch operation is possible. Moreover, the manually adjustable version enables angles between +20° and -60°. The function TOOL integrates the MFA-jib into the stability system.

### More Efficiency in Use

- Additional outreach and another inflexion point allow efficient working.

### A great Variety of Applications

- Depending on the application, the MFA-jib can be mounted or demounted. For the transportation, a bracket is available.





# LIGHTWEIGHT DESIGN

## GENERAL / CUSTOMER BENEFITS

### Product Features

By using high-quality, high-strength steels and increased use of plastics and light metals, PALFINGER cranes are becoming increasingly light weight with the result of higher payloads and lower operating costs.

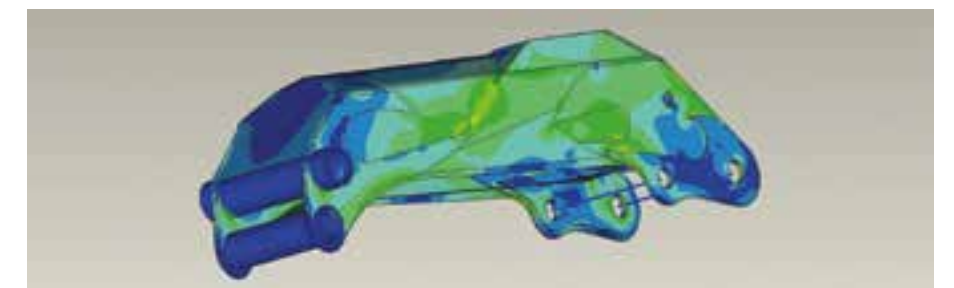
All load bearing components are calculated, optimized and designed light weight with finite element technology, which has been used for years.

### More Efficiency in Use

- Lower fuel consumption means lower costs
- Greater payloads
- Lower overall operating costs
- More lifting power

### Environmental Friendliness

- Lower fuel consumption means fewer emissions



# WARRANTY

## GENERAL / CUSTOMER BENEFITS

PALFINGER cranes are quality products. PALFINGER guarantees maximum cost-effectiveness through three different warranty terms.

### More Efficiency in Use

- 12 months full warranty on all cranes and radio remote controls
- 24 months warranty on all load-bearing parts of cranes that work in gripper operation
- 36 months warranty on all load-bearing parts of cranes that work in hook operation
  
- Warranty extension up to 24 months full warranty possible
- Warranty extension up to 36 months full warranty possible



3 JAHRE  
**PALFINGER**  
WARRANTY

# MCC - MOUNTING COMPETENCE CENTER EVERYTHING FROM A SINGLE SOURCE

## GENERAL

### Product Features

The strategic approach of the mounting competence center is based on 4 pillars.

1. Product development: The experience and newly gained expertise directly benefit product development. Developments in the field stability (HPSC), optimized support concepts and electronics, together with the vehicle interfaces can be optimised.
2. International support of the dealer network: New markets, dealers and partners are supported in technical tasks.
3. Standardisation & cost optimisation in mounting: Today's crane vehicle construction solutions are predominantly customised and individual solutions. This means that the individual details of every mounting process are different. Standardised components are gradually being developed for quicker, more efficient and more cost-effective production.
4. Complete structures - „Everything from a single source“ means: one contact person, perfect planning, optimally organised assembly and perfectly coordinated mounting under optimal conditions. The central goal is to achieve maximum performance for the complete vehicle and, of course, for our cranes.



# MCC - MOUNTING COMPETENCE CENTER EVERYTHING FROM A SINGLE SOURCE

## CUSTOMER BENEFITS

### More Efficiency in Use

- Weight-optimised mounting components
- Perfectly adjusted cranes – maximum performance of the overall system

### Best Service Organization

- Short project lead times
- Vehicle training and handover in the factory
- Coordination of deadlines between crane producer and mounting department. Reduction in costs of transport for mounting



# DEVELOPMENT

## GENERAL / CUSTOMER BENEFITS

The foundation for a reliable and successful product is based in its design. Finite element calculations, field and endurance tests, DMS measurements and transport simulations ensure an optimum balance between weight and strength. At the new research and development centre in Köstendorf, interest is focused on topics like "ergonomics, functionality, weight and material optimization". Major involvement in the area of research and development, cooperation with universities and technical universities form the foundation for innumerable patents and innovations in the competence areas of the geometry of kinematics, electronics, painting technology, materials, processing and production technology.



# EXPANSION MEASUREMENTS, ENDURANCE TESTS, HYDROPULSER TEST BENCHES

## GENERAL / CUSTOMER BENEFITS

By using expansion measurements and automatic endurance tests, PALFINGER 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 PALFINGER to optimize components to meet the harshest customer demands.



# „SHAKER” VIBRATION AND SHOCK SIMULATIONS

## GENERAL / CUSTOMER BENEFITS

Electronic and hydraulic components on the truck-mounted crane are subjected to extremely high environmental loads. In the environment simulation lab, all electronic and hydraulic components are subjected to the respective test procedures. In the vibration test system ("Shaker"), shock, vibration and broadband noise tests are conducted according to international standards. These procedures simulate different road driving and pothole situations.



# CLIMATE EXPOSURE TEST CABINET

## GENERAL / CUSTOMER BENEFITS

We test the most important components (control spool and electronic components) in the climate exposure test cabinet, which simulates tough, real conditions (extremely low and/or high temperatures, temperature fluctuations, air humidity,...).

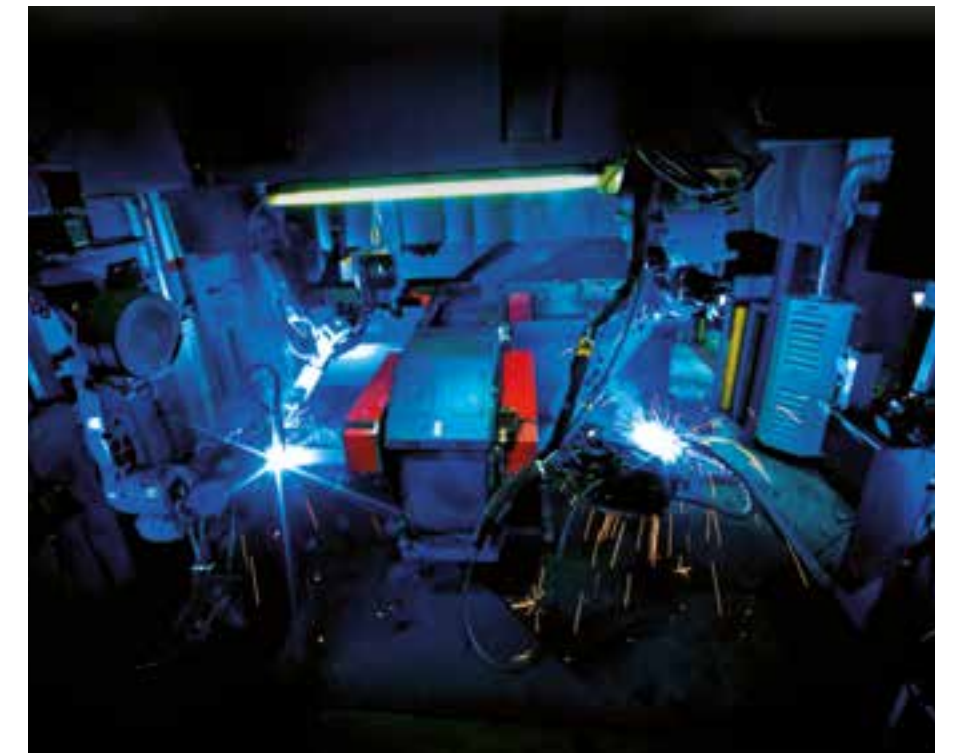




# PRODUCTION TECHNOLOGY

## GENERAL / CUSTOMER BENEFITS

The foundation stone for quality is laid in production. Through the specialization of component manufacturing in the individual PALFINGER production plants, PALFINGER optimizes its processes and thereby increases its productivity and quality. In the field of steel processing and machining, PALFINGER has the latest cutting, edging and welding technologies in its production sites. A highlight is the new, highly automated hexagonal and P-Profilee boom production in the Austrian plant in Lengau. Thanks to the new technology, high-strength steel can be processed and machined with extreme precision. Even the tiniest deviations in manufacturing are avoided and as a result even more exact crane movements are guaranteed. Following numerous modernization measures, the plant in Marburg now operates as a competence centre for the production of large components. With the cylinder production in Tenevo, PALFINGER has advanced and become the largest manufacturer of hydraulic cylinders worldwide.



# QUALITY MANAGEMENT

## GENERAL / CUSTOMER BENEFITS

Our quality management system is aimed at our customers and is based on the core thinking of direct responsibility of all employees; it ensures the systematic consideration of the "quality" aspect in all phases of product development, product creation in the utilisation phase. We are therefore able to ensure that

- Our customers have faith in our ability to produce quality and are satisfied with our performance;
- Our organisation is financially successful and
- Employee satisfaction is high.

Based on our corporate policy we maintain and document a quality management system that caters for all 5 interest groups (customers, employees, owners, contemporaries, environment and suppliers). It encompasses every phase of service provision and its aim is to ensure long-term quality and customer satisfaction.

Ongoing internal audits and the external audit, together with the management review, ensure that the QM system is adhered to and that it works.



# ASSEMBLY AND TESTING

## GENERAL / CUSTOMER BENEFITS

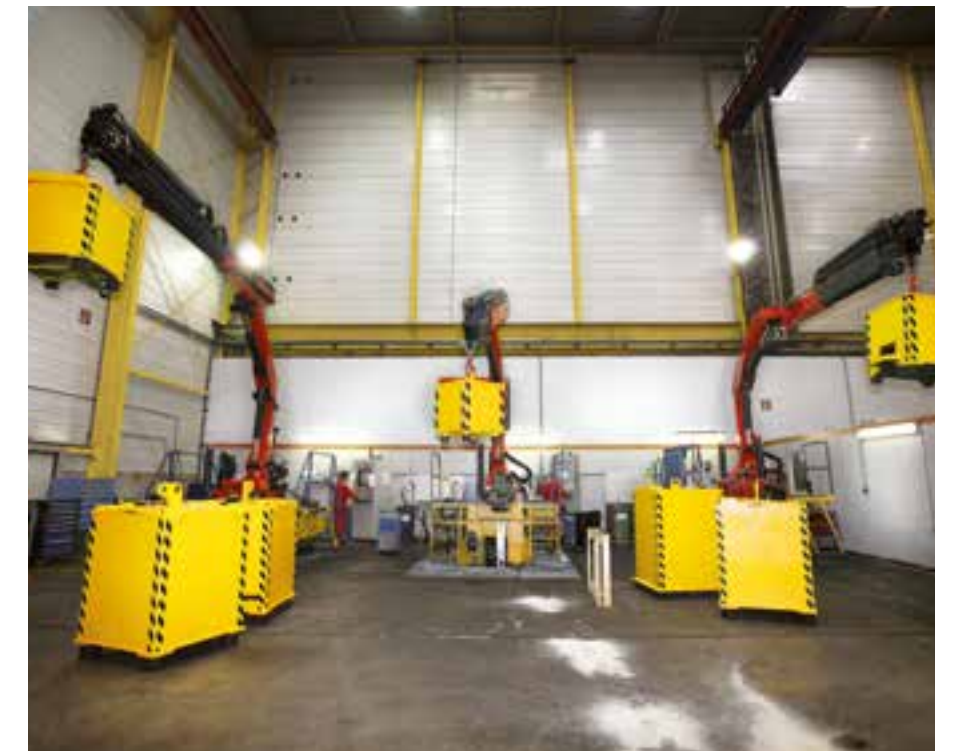
PALFINGER cranes are assembled in team manufacturing. And, before they leave the plant, they have passed a lot of tests. The highest quality standards require strict and meticulously accurate testing methods. Therefore, at PALFINGER, every crane passes through an extensive check on the test bench. With the help of special test software, successive execution of the stipulated testing steps takes place on the basis of specifically defined master test plans.

### **Safe Crane Operation**

- Meticulous tests guarantee reliable and safe crane work

### **Increased Resale Value**

- Certified quality fetches higher resale values



# SERVICE NETWORK

## GENERAL / CUSTOMER BENEFITS

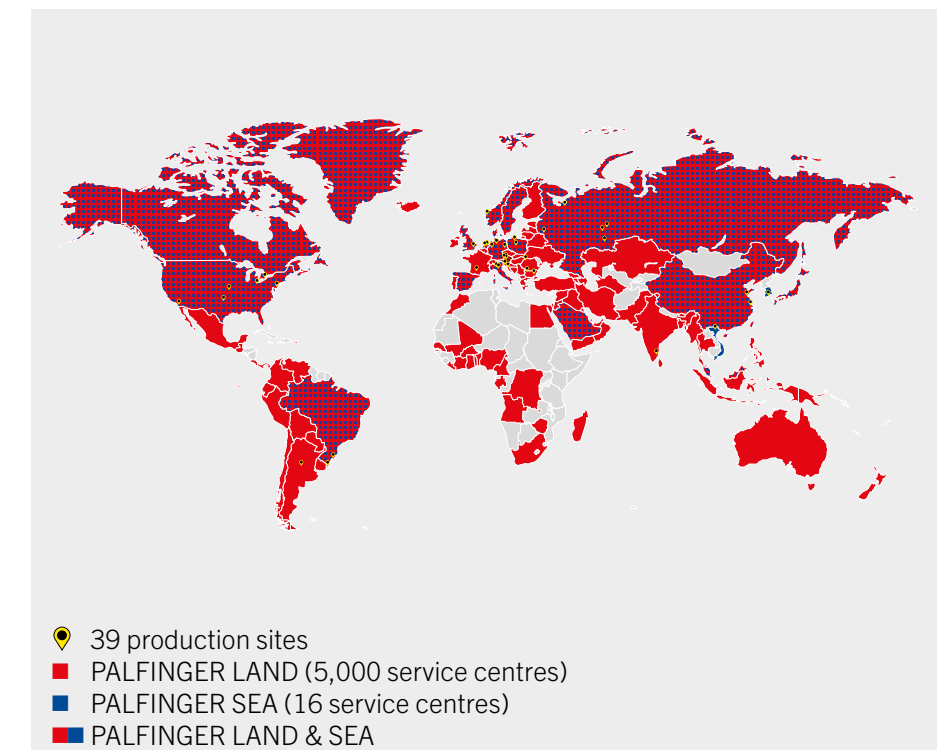
With over 4600 sales and service bases worldwide, PALFINGER provides an extensive service network. Exclusively top trained, highly motivated personnel and specifically developed special tools ensure our service. At the PALFINGER University, all employees are familiarised with the specific expertise necessary for this. This includes the latest technologies, but also current regulations and norms.

### More Efficiency in Use

- Low failure rates
- Highest equipment availability

### Best Service Organisation

- Highly trained workshop employees
- High availability of spare parts
- Quick help in emergencies



# DEALER STANDARDS

## GENERAL / CUSTOMER BENEFITS

By the PALFINGER Standards programme, the compliance with the high quality standards in the global sales and service network is ensured. By recurring audits, the consistent appearance and the high recognition value for the customer are ensured. Standardized processes and high professionalisation over the whole process chain secure our partners long-time competitiveness.

### Best Service Organisation

- Competent and professional advice in choosing a PALFINGER product
- Perfect customised vehicle concept
- Quick, professional and uncomplicated support
- Worldwide consistent standards



# PALFINGER ORIGINAL SPARE PARTS

## GENERAL / CUSTOMER BENEFITS

PALFINGER original spare parts are always the first choice. They are manufactured in accordance with the PALFINGER standards and are tested for their compliance with our strict quality standards. The original parts convince due to their highest reliability and efficiency. In order to keep possible stand-still times as short as possible in a case of damage, PALFINGER relies on a global spare parts network. Five big spare parts centers guarantee highest availability of the individual spare parts. Due to these consistent spare parts logistics, the provision of individual spare parts is possible within 24 hours. Parts logistics just in time.

### More Efficiency in Use

- Low failure rates
- High equipment availability

### Increased Resale Value

- Longer equipment service life thanks to the spare parts guarantee



## GENERAL / CUSTOMER BENEFITS

Provides support with sales, mounting and service of our products for our dealers and customers.

**PALcode Mobile App:** It is designed for the users of the PALFINGER sales & service network and is thereby an ideal counterpart to the existing app „PALFINGER Mobile“ for end customers.

**PALremote:** Programme for remote maintenance and remote diagnosis.

**Paldiag.NET:** Programme for diagnosis and configuration of PALTRONIC and radio remote control.

**Pacwin.NET:** Mounting calculation programme for the determining of axle loads, stability and load capacity.

**PAF:** Programme for vehicle chassis calculation.

**PALipedia:** Programme for the display of technical information sheets, spare parts catalogues, electrical/ hydraulic diagrams, service information, training documents, mounting guidelines, repair manuals and repair times catalogue.

**PALchart:** Programme for the creation of load capacity diagrams of reduced operation ranges.

**PALSHOW.NET:** Programme for showing payload curves and payload analyses

**PALdesk:** Is an individually adaptable user interface. It shows the user all relevant information in a process-oriented way along the lifecycle of a product.



# TRAINING PALFINGER UNIVERSITY

## GENERAL / CUSTOMER BENEFITS

The PALFINGER PAL-U training academy offers a wide range of technical and sales courses enabling you to provide end customers with the best possible advice and guidance. It's the combination of practical work with extensive PALFINGER knowledge that participants on the PALFINGER University courses get the most from. PALFINGER's state-of-the-art training centre in Salzburg Kasern has five seminar rooms, a demo centre and a training bay, providing the optimum training environment.

### **Best Service Organization**

- Worldwide competent help in the workshops
- The latest level of knowledge in technology
- Efficient knowledge transfer through "Train the Trainer" training
- Knowledge transfer through crane briefing





# **SUSTAINABILITY**

## **SHAPING THE FUTURE.**

## **LIVING RESPONSIBILITY.**

### **GENERAL / CUSTOMER BENEFITS**

By truly embracing sustainability we take responsibility for tomorrow – as a responsible employer, we produce sustainable products in an eco-efficient manner and stand for fair business. PALFINGER has been paying attention to topics such as sustainability for more than 10 years. It is viewed as an interdisciplinary matter that has been genuinely incorporated into the various areas of the company as a matter of course.

#### **Ece-Efficiency in Production**

Energy efficiency and climate protection are relevant throughout the entire production process. PALFINGER is aware of its environmental responsibility and due to selfinterest has committed to the goal to manage resources economically and efficiently.

- Efficient use of raw materials and continuous optimization of waste cuttings and rejections
- Energy efficiency as part of the continuous production optimization
- Continuous reduction of emissions in terms of climate protection
- Avoidance of waste and of release of hazardous substances and measures from PALFINGER's energy saving manual



# **SUSTAINABILITY**

## **SHAPING THE FUTURE.**

## **LIVING RESPONSIBILITY.**

### **GENERAL / CUSTOMER BENEFITS**

#### **Sustainable Products**

Minimizing energy consumption, cost and emissions throughout the product life cycle are as important to PALFINGER as maximizing safety while using the products.

- Widespread use of safety features and concepts to prevent accidents
- Investments in product innovations for user safety as well as in research and development
- Efficient and eco-friendly products with low need for energy and operating materials
- Products of superior quality, reliable, made to last and low in maintenance

#### **Responsible Employer**

Employees are a material factor of PALFINGER's success. Therefore, their motivation, qualifications and, first and foremost, their health and safety are given high priority. Another focus lies with the group-wide diversity-project "PALiversity".

- Offer of attractive workplaces
- Occupational health and safety as the overriding priority
- Promotion of further education and training programs
- Open mind approach to diversity at PALFINGER and support of equal opportunity

#### **Fair Business**

Cost effectiveness is reflected in entrepreneurial thinking, the objective being to make a profit and achieve sustainable, profitable growth. Priorities include the Code of Conduct, the prevention of corruption, integrity line and fair taxation.

- Long term viable business model
- Guarantee of compliance with legal and ethical standards
- Securing integrity by PALFINGER's Code of Conduct
- Correct corporate governance and behavior according to defined corporate values
- Integrity line helps to prevent embezzlement and corruption