

crane passion

Issue #7

PALFINGER CRANE

The magazine with a passion for crane technology



HPSC.

The intelligent stability
control system.

SH large cranes.

Masters of the universal
heavy-duty class.



PALFINGER – PASSION – PERFORM



PALFINGER. COMMITTED TO TOP- CLASS PERFORMANCES.

DEAR PARTNERS AND FRIENDS OF PALFINGER,

Those who want to serve global markets must know them well. Our product developers have their eyes on the world and the values of PALFINGER in their heads. They identify trends and set new ones. Usually years before the result becomes visible in practice. At the same time PALFINGER expresses its brand identity consistently because it is an important reason why customers Worldwide decide on a PALFINGER product.

Enormous commitment, professionalism and passion – with the claim to giving its best and then time after time “going one better”. PALFINGER’s philosophy

and brand personality are aimed at achieving top-class performances. Top-class performances in product function and efficiency – top-class performances that benefit customers all over the world and operate according to identical success strategies.

High speed, huge load carrying capacity, precision working, ease of operation and ease of maintenance. This is what loading, lifting and handling systems by PALFINGER stand for. The solutions we provide make customers more successful by making work easier for the operator, increasing work performance and providing the contractor with economic benefits. The focus is on sustainability and consumption efficiency.



MANANCE – POWER – PERFECTION

At the same time, the best performance, best quality and best service also mean the best economic decision. When it comes to life cycle costs, a PALFINGER product is an acquisition that more than pays for itself. High quality standards in purchasing, manufacture and assembly ensure maximum reliability and product longevity. A close-knit global service network with superbly-trained service staff and the best spare parts supply, prevent expensive downtimes (expensive economic market fluctuations).

The demands made on us and what we do are high. As a premium supplier, we are committed to top-class performances. Top-class performances that we can only achieve by communicating with our customers. And for this reason we meet the users of our products on an equal footing and tend to their requests and ideas incorporated in our product developments.

The new proportional stability control system HPSC and the two brand-new large crane models 65002 SH and PK 78002 SH are further proof that PALFINGER's product developers and designers consider themselves committed to focusing on the needs of users.

I invite you once again, to discover the amazing world of PALFINGER High Performance truck-mounted crane technology.

On that note, let me also wish you every success,

Wolfgang Pilz (CMO)

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PALFINGER's new integrated stability control helps the crane operator to achieve maximum comfort and safety during crane operations even where space is restricted. It is often the case in densely built-up areas, in flowing traffic or similar situations that the vehicle can only be supported on one side or it may only be possible to support it partially and sometimes not at all. In the HPSC, PALFINGER has developed a system defined by maximum flexibility and user-friendliness and has brought it to series maturity following a number of successfully completed field tests with the result that working with the crane is safe even in cases such as these.





HIGH PERFORMANCE STABILITY CONTROL.

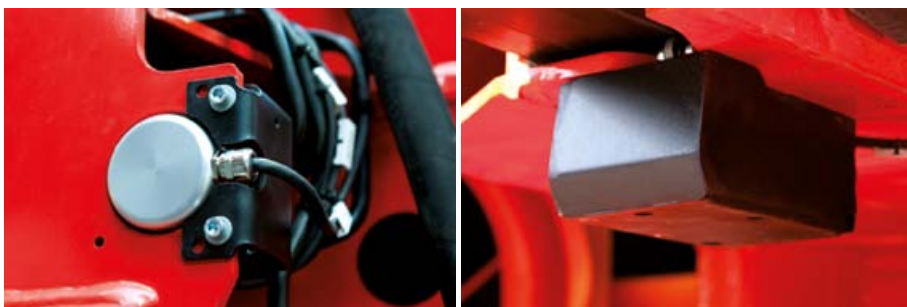
– INTELLIGENT STABILITY CONTROL SYSTEM FROM PALFINGER:

In real life situations you don't always get what you want. Resources are scarce. Lack of time and restricted spaces when working are just part of a crane operator's day-to-day life. PALFINGER uses its technologies to offer intelligent and adaptable solutions.

PALFINGER's product developers have always had a special affinity for practical and particularly user-friendly solutions and they demonstrate this over and over. Once again, their latest development in stability control is setting new standards. We are talking here about **HPSC**. HP stands for *High Performance*. SC stands for stability control. What this really means is another intelligent PALFINGER system that increases comfort and safety when operating truck-mounted cranes.

MORE FLEXIBILITY IN TRUCK-MOUNTED CRANE USE DUE TO VARIABLE STABILIZER POSITIONING

During the development and introduction of PALFINGER's new *High Performance* crane generation, which clearly focused on optimizing customer benefit, it was only logical to develop the 3-stage ISC system into an innovative HPSC stability control system. HP as an abbreviation for *High Performance* encompasses superiority in efficiency, operating comfort and safety. This is a proportional system which recalculates and defines the permissible working range for any stabilizer situation. Sensors for proportional path measurement located in the stabilizers make their positioning fully variable.



APPROACHING THE LIMITS OF PHYSICS

The HPSC system calculates and defines the permissible working range from 0° to 360° for any stabilizer situation. It works more efficiently than comparable systems available in the market thanks to software developed in the company's own electronics department which is based on an intelligent algorithm.

The algorithm developed by PALFINGER is a complex calculation process which enables a very accurate approximation to the vehicle's actual stability based on the crane and vehicle's data. Unlike rigid body calculations, such as are usual in other systems, the actual data of the crane and vehicle (weights) including the vehicle's torsion are incorporated in the calculation as a function of the boom position. The accuracy is achieved by determining an inherent value for stability every 1.4°. This maximum approximation to the vehicle's physical tipping limit makes it possible to exploit the crane's safe working range to its fullest extent.



Widest possible working range thanks to intelligent real-time data algorithm

During operation, the vehicle's stability is determined in real time based on the current stability support situation, the crane position and the crane load. To do this the algorithm calculates the support polygon: that is the continuous curve together with tipping edges between the stabilizers and the vehicle's loaded wheels.

The crane's exact current angle (0 to 360°) to the vehicle is determined at any particular time via the crane column angle sensor. If the crane is moved, this is included immediately in calculating the moment balance. The inertia forces arising during crane operation are also taken into consideration depending on the crane's current utilisation in accordance with EN 12999. The machine is halted before the overturn torque exceeds the permissible limit value.



"EVERYTHING IN SIGHT"

By means of electronic communication with the operator, the HPSC system incorporates the current stability support situation including additional stabilizers into the crane's electronic safety system. The operator can read off the current status at any time on the clearly laid out display on the operator's console or on the display of the radio remote control.

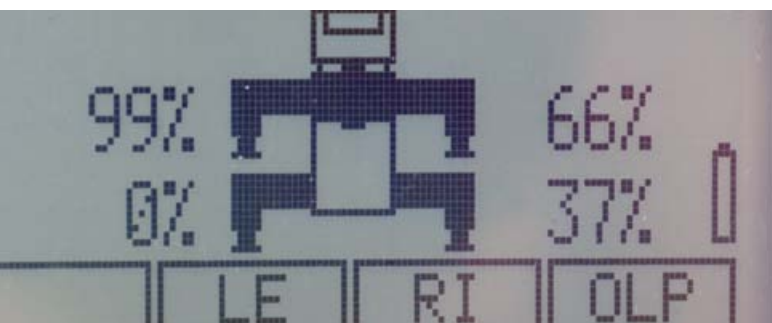
FOCUS ON CUSTOMER BENEFIT

Nowadays, truck-mounted cranes must carry out increasingly demanding tasks using more and more complex electronic control and monitoring systems. A perfect combination of state-of-the-art hydraulics, electronics and sensor systems are responsible for the extremely high functionality of these increasingly intelligent machines. Complex electronic control and monitoring systems are among the latest developments. The new HPSC stability control system as part of a comprehensive safety system (overload cut-off, geometric monitoring of the whole working range, soft stop, active oscillation suppression, etc) is another revolutionary response to assignments carried out under difficult conditions.

The position of the stabilizer is recorded by means of cable extension transducers or magnetostrictive position sensors in the stabilizer support. The entire sensor system is mounted inside the unit to conform with PALFINGER's functional design language and is therefore protected against damage, dirt and the elements.

"THE CRANE THINKS. THE OPERATOR STEERS."

A glance over the operator's shoulder illustrates immediately just how easily and safely a PALFINGER truck-mounted crane can be operated. The latest electronic control and safety systems make the crane operator's job easier. All the crane functions are easy to control via the new radio remote control with LCD display. It is easy for the operator to maintain an overview when accurately informed about capacity utilisation, active systems, movements available and the position of the stabilizers. He is guided clearly and safely in peripheral limit areas. The image shown on the display directs the crane operator, helping him to keep a cool head in any situation and to make the right decision.



HPSC. A SYSTEM THAT PREVENTS MISTAKES.

It goes without saying that the main responsibility for proper control of the machine – in line with the manufacturer's operating instructions – lies with the operator. But everyone makes a mistake some time. This is quite simply part of being human. This is where intelligent control and safety systems come into play. They prevent such mistakes or react by initiating appropriate restrictive measures. HPSC is one of these.

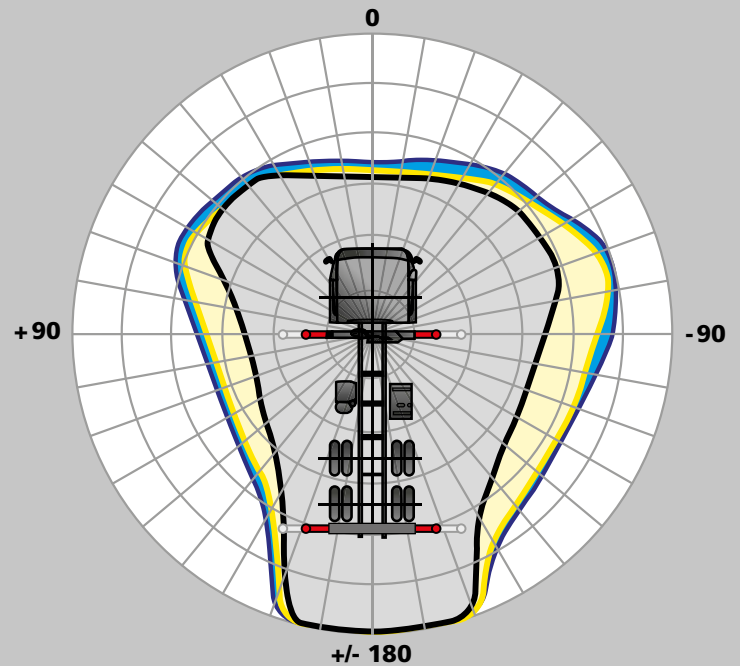


HPSC.

CLEARLY SUPERIOR TO OTHER SYSTEMS!

Compared to conventional proportional systems, whose efficiency is sacrificed quite simply due to limited adjustment and correction facilities, PALFINGER's HPSC system comes closest to actual support stability. PALFINGER treads the line between exaggerated safety tuning and physical tipping limit more intelligently than any other, thus exploiting the crane's largest possible safe working range.

- Maximum exploitation of the possible working range
- Optimum utilization of the lifting power at every point of the stability curve
- Maximum operating comfort due to clearly laid out display on the crane and on the radio remote control
- Prevention of incorrect operation due to shut down in limit situations
- Easy to maintain using PALDIAG diagnostic software
- Part of an integrated control and safety system (unbeatable in combination with geometric monitoring of the whole working range, soft stop and active oscillation suppression AOS)
- Reliable sensor system, enclosed inside the unit and protected against damage
- Easy to service and maintain
- Auxiliary stabilizers are fitted with proportional path measuring sensors and integrated in the overall system
- Optional expansion for special applications
e.g.: ballast weight, front stabilizers, etc.



- Real support stability limit
- The new HPSC from PALFINGER
- Conventional proportional monitoring systems

HPSC.

THE MOST INTELLIGENT STABILITY CONTROL SYSTEM OF ALL TIME!





WELCOME TO THE MOUNT LARGE CRANE TECHNOLO



“SH”. NOW ALSO AVAILABLE IN PALFINGER’S LARGE CRANES.

Introduction of PALFINGER’s new *High Performance* crane range focuses not only on technical superiority but also on operating comfort and safety. Among the highlights of this crane generation are development of the functional design, the maintenance free extension boom system, Power Link Plus and the achievement of a higher lifting moment with the dead load remaining almost identical. The SH series – as the crown of the *High Performance* crane family – is impressive due to its perfect blend of power and intelligence. In the PK 65002 SH and the PK 78002 SH PALFINGER now presents the next two large crane models including SH package. Uncompromising quality down to the last detail, an unbeatable power to weight ratio and the intelligent SH control concept make the two new large cranes second to none in their classes.

OLYMPUS OF GY!



THE WONDERFUL WORLD OF PALFINGER LARGE CRANE ASSIGNMENTS

PALFINGER truck-mounted cranes of the new SH heavy-duty class are perfectly equipped for difficult special tasks. The call for them becomes louder wherever exceptional demands are made on precision and safety.

Technical highlights such as the tried and tested active oscillation suppression system AOS, the Power Link Plus reverse linkage system, the maintenance free extension boom system or the continuous slewing system are typical of this construction class. The way they show off their strength thanks to S-HPLS or maximize their working range with the help of the variable HPSC stability control system delights every crane operator over and over again on a daily basis.

MASTERS OF THE UNIVERSAL HEAVY-DUTY CLASS

A working day in today's large crane sector has many challenges and a PALFINGER large crane always has the right equipment to deal with it. The new SH large cranes demonstrate their talents during every assignment be it classic container handling, moving heavy machinery inside a hall, delicate installation assignments or the precision loading of boats.

There is always keen interest wherever a PALFINGER heavy-duty crane is brought into position. No wonder given its "High" Performance!

8 AM:

Container loading

Equipped with continuous slewing system and reverse linkage system, the crane is extremely manoeuvrable and adaptable. Operation of the radio remote control that is precisely tailored to the crane runs safely and precisely. Even the heaviest loads can be positioned with pinpoint accuracy with the help of the active oscillation suppression AOS and Super-HPLS.

11.30 AM:

Business as usual

Many assignments take place next to very busy roads. The truck stands neatly parked at the side of the road. Its stabilising supports and stabilizers are only slightly extended on the road side. Nevertheless, the crane starts to move and begins to carry out its work safely – without obstructing the traffic. Thanks to HPSC!

2 PM:

Boat loading

Given the value of the load – it's a delicate business. But no worries! A state-of-the-art PALFINGER heavy-duty crane can perform some of the finest precision work due to its extreme controllability and its intelligent safety and monitoring systems (geometric monitoring of the whole working range, soft stop, AOS and HPSC).

4 PM:

Installation work

The list of possible applications is long indeed – be it the installation of glass panes, solar panels, photovoltaic modules, boilers, roof trusses, steel structures, to name but a few. Contractors are particularly flexible with a large crane by PALFINGER including fly jib and cable winch. It is also possible to take on jobs that it would otherwise be embarrassing to refuse. Use of the fly jib becomes even more efficient thanks to DPS plus. Cable winch operation becomes a sheer delight thanks to cable routing.

**INTELLIGENT AND STRONG
AT THE SAME TIME.
DAVID AND GOLIATH ALL IN ONE.**





ADDITIONAL KNUCKLE BOOM SYSTEMS: FOR USERS WHO WANT MORE FROM THEIR TRUCK-MOUNTED CRANE.

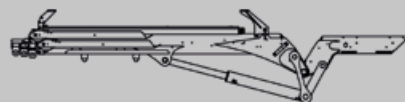
An additional knuckle boom system (fly jib) extends the crane's working range therefore increasing its range of possible applications. The better the technical design of the fly jib, the more efficiently the crane works overall in respect of lifting power and outreach.

With model versions PJ040, PJ060, PJ080, PJ100, PJ125 and PJ170, PALFINGER now offers a complete, highly-developed range of additional knuckle boom systems for cranes from 15 to 150 meter tonnes:

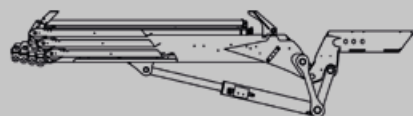
THE HIGHLIGHTS

Improved hose routing to the crane thanks to spiral wound hose; easy disassembly of the additional knuckle boom system; optimum protection of the hydraulic hoses against damage or dirt

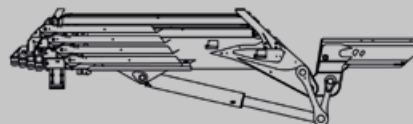
- Compact construction with low overall height
- Lightweight design for optimised lifting power
- Additional working range due to 25° overextension
- Maintenance-free extension system
- Return oil utilisation as standard
- More efficient thanks to DPS Plus^{*)}
- Hose equipment the two additional attachments (optional)
- Short setup times in cable winch operation thanks to comfort cable routing (with PJ100, PJ125 and PJ170)



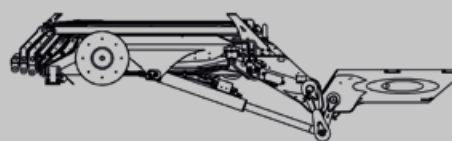
PJ040



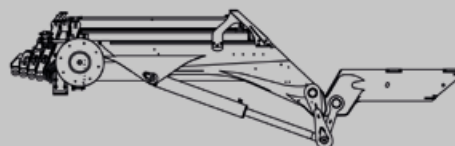
PJ060



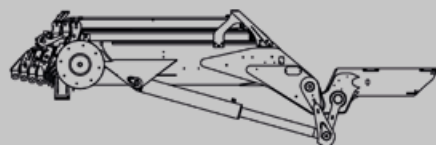
PJ080



PJ100



PJ125



PJ170

^{*)}With the help of the Dual Power System Plus (DPS Plus) developed by PALFINGER, the fly jib can be operated with two pressure ranges by using a special electronic overload cut-off and therefore works even more efficiently.

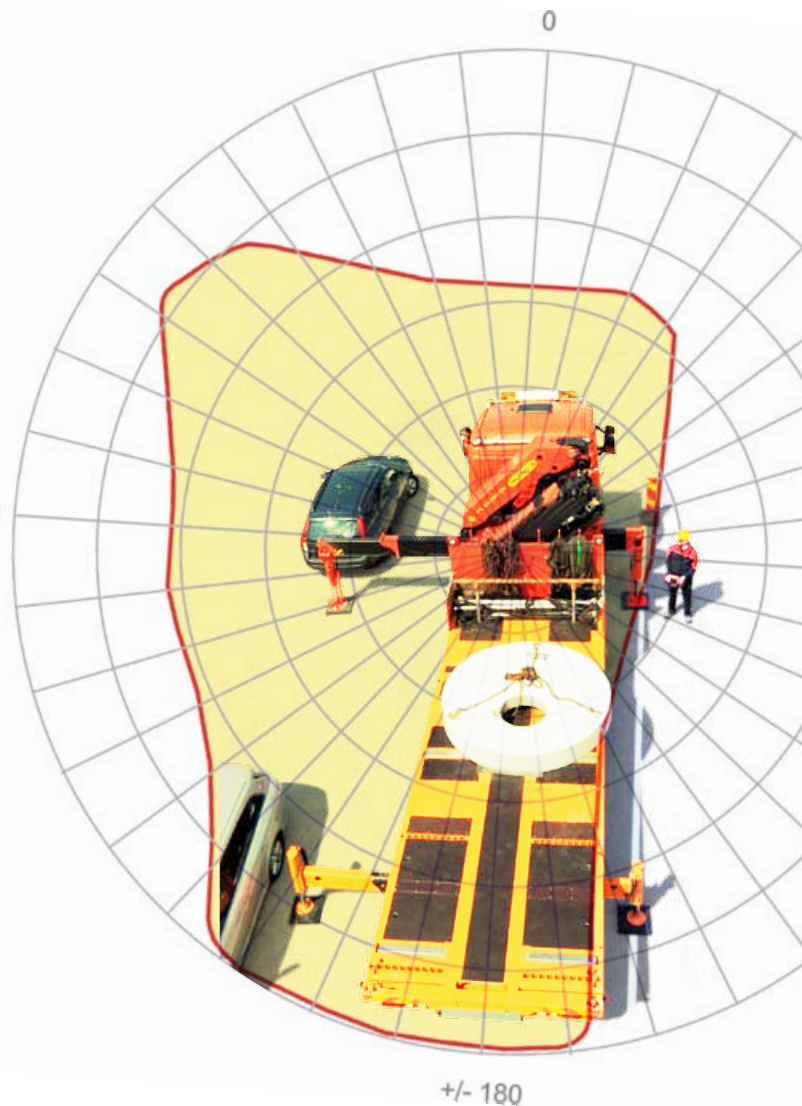
AUXILIARY STABILIZERS INTEGRATED IN THE HPSC STABILITY CONTROL SYSTEM

From now on, all series-capable PALFINGER auxiliary stabilizers are available with the fully proportional stability control system HPSC.

Integration of the auxiliary stabilizers in the truck-mounted crane's stability control system creates an efficient overall system for maximum flexibility and safety. PALFINGER is the only manufacturer to offer a proportional solution. This means that the auxiliary stabilizers are also capable of variable positioning depending on the assignment situation. There is no longer any need to achieve predefined stabiliser conditions.

As a system supplier, PALFINGER supplies technically mature, complete solutions that are perfectly matched to the vehicle and the industry. A simple predefined connection of the auxiliary stabilizer to the control system on the crane makes assembly easier. The crane's auxiliary stabilizer combination is adjusted perfectly to the vehicle body structure using the PALDIAG adjustment and diagnostic software. And the vehicle's optimum stability can be calculated thanks to PACWIN.NET.

+ 90



VARIABLE STABILIZER SITUATION





Innovative at all levels. This is PALFINGER's philosophy. Up-to-date and forward-looking training concepts in the human resources section show that it is not only a case of innovations at product and production level.

PALfuture.

CUSTOMISED TRAINING CONCEPT FOR SKILLED WORKERS OF THE FUTURE.

As a technology leader in the truck-mounted cranes business, PALFINGER knows the value of well-trained employees. Comprehensive and practice-based training concepts are the basis of qualified skilled workers in production and assembly. The apprentice training centre for Austria is located in Lengau, the PALFINGER Group's largest production plant and PALFINGER's biggest site worldwide.

Since 2004, PALFINGER has been officially recognised as a company that trains apprentices. PALFINGER accepts approximately 15 to 20 apprentices each year. Practical training in the skilled trades of mechanical engineering, production engineering, mechatronics, electrical systems engineering and design takes place in a state-of-the-art training facility. Vocational training school

and training in production or assembly (rotation principle) in the various PALFINGER plants complete the training programme.

An apprenticeship at PALFINGER is training with prospects. The technical content is taught using state-of-the-art technology and training methods. In addition to professional skills, personal interests and abilities are also taken into account and encouraged in internal and external seminars and training courses. Voluntary professional development opportunities such as an apprenticeship with matriculation certificate in-house are also offered. Great importance is attached to the general education of employees. The above average success rate of apprentices in the vocational training school speaks for the quality of the training.



This training program makes PALFINGER one of the top companies training apprentices in Austria!

Incidentally, the motto "We are PALfuture" was created by the apprentices at PALFINGER themselves and signifies the motivation and excitement which prevails among our future skilled workers. And the fact that 95% of the employees who have followed an apprenticeship at PALFINGER are still employed in the company is a clear expression of the company's attractiveness

and its prospects. "Investment in human resources is an important principle for still being successful in the future."

"Value creation requires appreciation because you only reap what you sow ..."

A close-up photograph of two men shaking hands. The man on the left is wearing a white dress shirt, and the man on the right is wearing a light purple dress shirt. They are both smiling and looking towards the camera. In the background, a large red crane with yellow accents is visible, slightly out of focus. The crane has a yellow logo that reads "PALFINGER".

Next edition

PALFINGER.

A reliable partner
for 80 years.

KP-CRANEP07+E