

PASSION

PALFINGER CRANE MAGAZINE

16

EFFICIENT

New applications with
the PK 135.002 TEC 7

INNOVATIVE

New system features
MEXT, WEIGH and TOOL

RELIABLE

Service report
from Germany



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EDITORIAL



DEAR PARTNERS AND FRIENDS OF PALFINGER!

We don't think in terms of products, we think in terms of solutions. When we at PALFINGER are working on new product features, our main focus is always on how we can make things easier for our customers. For us, it's about efficiency, safety and comfort – and ultimately about improving your company's profitability.

The new PK 135.002 TEC 7 is a prime example of our attitude towards innovation. The heavy-duty crane is lightweight but strong. It is constructed such that a 40-tonne five-axe truck can still carry a payload of up to eight tonnes without exceeding the weight limits. This offers major benefits during operation. It makes the PK 135.002 TEC 7 extraordinarily versatile – like our customers' applications. You can read more about this on our title page.

Incidentally, 2015 was the year when the first model in our TEC range – the PK 165.002 TEC 7 – was introduced. This model is now in operation by customers in 16 European countries, the USA, Canada and Asia. It's a real success story and we are proud of it.

Our new product features – MEXT, WEIGH and TOOL – highlight the extent of our solution-oriented mindset. These intelligent systems assist the crane driver in difficult situations and thus ensure speed and safety. Find out more about what these new product features can do on page 6.

And because true fans love to show their enthusiasm, the PALFINGER Fanshop has also recently been introduced for our customers.

Happy reading! We are confident that you will find lots of ideas on how to leverage efficiency potential.

Martin Zehnder
(Member of the Executive Board – President LAND)

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PALFINGER is expanding its comprehensive product portfolio in the heavy-duty crane segment to include another model from the TEC-series. The new PK 135.002 TEC 7 offers an outstanding ratio of lifting capacity to dead weight. This new crane can be equipped with three different fly jibs and features a full range of sensor technology, opening up a whole range of new applications.

The PK 135.002 TEC 7 can be put to an impressively diverse range of uses: whether performing heavy-duty operations, precision assembly work or operations requiring long reaches. The crane is in its element, whether it is container handling, lift system installation or roofing work.

During development, the emphasis was on achieving a low dead weight. In a direct

comparison with the PK 150002, which has proven itself over many years, two features immediately stand out. The 2000-kilogram reduction in dead weight is accompanied by an increase in lifting capacity. How is this possible?

First and foremost due to the rigorously lightweight design, made possible by the P-Profile. The possibility of equipping the crane with a full range of sensors also significantly increases lifting capacity using revolutionary systems such as DPS-C.

Incidentally, the similarity with the PK 165.002 TEC 7 is limited to the outer appearance. The PK 135.002 TEC 7 is a completely new construction, which is not based upon the components of the PK 165.002 TEC 7. Deriving two lifting classes from a single technical concept works perfectly in the 20 mt or 30 mt class, where an increase in performance can be achieved purely by material strength and quality, but not in the 100 mt to 130 mt class.

models which are designated as 135 meter tonnes models by the competition, cannot hold their own against the PK 135.002 TEC 7. Thereby, one of the competitor's models is a little stronger in extended positions, while the other shows its advantages in the close range – but the PALFINGER model proves its superiority consistently, across the entire range of reach.

It was the project's objective to construct a loader crane for a truck with additional payload capacities. In case of a four-axle truck with a permissible total weight of 32 t this leaves 2,500–3,000 kg of free payload. In case of a five-axle truck with a total weight of 40 t the free payload comes to as much as 8,000 kg of free payload. The customer benefits are obvious. No permissions are required for special transport operations with back-up vehicles, nor are there any route restrictions. Nonetheless, customers benefit from a universally deployable vehicle with payload.

Three different fly jibs on three different extension booms can be fitted to extend the reach of the PK 135.002 TEC 7: The fly jibs PJ 240, PJ 190 and PJ 150.

The latter two are brand-new designs and, like the PJ 240, they are technically based on the application of the new P-Profile. The two versions PJ 240 and PJ 190 will be available with the start of production in 2018/Q1. The PJ 150 will be available from the second half of 2018.

Thanks to MEXT, WEIGH and TOOL, the PK 135.002 TEC 7 features a range of additional innovative options. MEXT allows one or two mechanical extensions to be monitored by sensors and as a result to be integrated into the overload protection system. WEIGH allows crane operators to weigh the load directly with the crane, thereby getting an overview of the positions which can be reached. And finally, TOOL allows various additional devices, which are connected via the multifunctional adapter (MFA), to be included in the calculation of the stability limit.

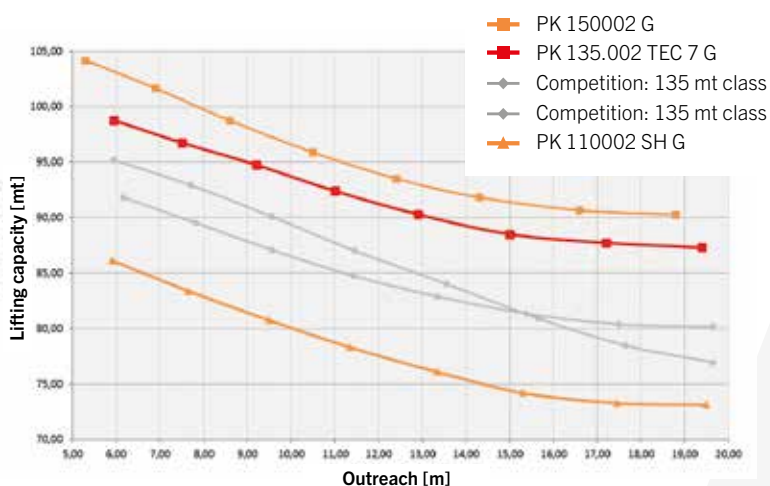
Operators can also choose from a wide range of tried-and-tested options such as P-Fold, DPS-C and HPSC-Plus GEOM. With the P-Fold assistance system, crane operators can fold and unfold the crane quickly and easily using only finger movements. The intelligent controller coordinates the movements of the crane and fly jib up to a predefined working position. With semi-automatic controls, the process is quick and comfortable.

DPS-C increases the lifting power on the fly jib tremendously by including the centres of gravity of the load and dead weight into the Paltronic calculations.

HPSC-Plus GEOM uses the same effect, resulting in a reach-dependent and, in turn, optimised stability monitoring. In situations where the vehicle is not fully supported or the reach is limited, the lifting capacity is increased significantly.

The PK 135.002 TEC 7 – an all-rounder for diverse applications.

LIFTING CAPACITY MEETS LOADING CAPACITY



In a direct comparison it becomes evident that the lifting moment of the new PK 135.002 TEC 7 (red line) has to be classified in the upper third between the two models PK 150002 and PK 110002 (orange lines) of the former model ranges. In-house developments like the P-Profile allowed it, to increase the maximum lifting moment while decreasing the dead weight significantly. The comparison with our competitors (grey lines) is also interesting:

NEW SYSTEMS: MEXT AND WEIGH

With the launch of the new heavy-duty crane PK 135.002 TEC 7, PALFINGER has introduced amongst others two new systems, namely MEXT and WEIGH. The innovative options are additional features, characterizing models of the TEC range as intelligent, high-tech devices.

MEXT – “MANUAL EXTENSION”

A combination of nine hydraulic extensions on the crane boom and six hydraulic extensions on the fly jib is one possible configuration of cranes of the TEC range, which achieves already an impressive reach.

If the application requires a further increase in reach, one or two mechanical extensions can be used on the fly jib. By choosing the optional length measurement system, which expands the sensors in terms of recognizing the length of the extension booms on the crane and the fly jib, it is now possible to integrate the mechanical extensions directly into the overload protection.

WEIGH – THE CRANE AS A SCALE

PALFINGER cranes are used for a wide range of applications, such as positioning loads on roof tops or moving heavy machines. Amongst these, there are also applications where the load's weight is unknown or was indicated wrongly. If this causes the crane to reach its lifting capacity limits, delays in the job execution and dissatisfaction of the customer can be the result.

The option WEIGH offers now the function to weigh a load directly on the crane. After applying the tare function, the load can be lifted and weighed to an accuracy of +/-5%. Moreover, loads can be added to a total weight or subtracted thereof, whereby the ten latest weight operations are documented including date and time. This function adds another advantage in terms of “getting an overview”.

What does that mean for the crane operator? He or she knows exactly, whether it will be possible to lift the load to the right place without changing the current position of the truck – even in those cases, where the weight of the load is not clearly disclosed.



It is possible to integrate one as well as two mechanical extensions into the overload protection.



The most recent weigh result is shown above the total weight.



An overview of the recent ten weighing procedures can be shown (symbolic representation).



MFA-JIB

The main objectives during the development of the MFA jib were to increase the maximum reach and to improve the flexibility of the height logistics. The results are certainly impressive. The MFA jib increases the reach by almost 5.5 meters. The manual angle adjustment of between +20° and -60° allows working on interfering edges that would previously have pushed the crane to its limits. It thus unites the benefits of a mechanical extension with the flexibility of a fly jib and expands the action radius of the crane. The compact, weight-optimized design – the basic version of the MFA jib weighs 100 kg – permits a maximum lifting

capacity of 350 to 650 kg. The jib can also be used for rope winch operation. Connection of the MFA jib to the crane or fly jib requires a multifunctional adapter (MFA), which is available for all cranes and fly jibs with P-Profile. The specified integration in the crane's electronic HPSC stability control system is performed using the new TOOL software function. The standardized MFA interface permits the MFA jib and other attachments such as basket connections, pulley heads, load attachments or the new installation tips with a load capacity of 3000 kg to be fitted and removed quickly, simply and ergonomically.



The MFA jib is the perfect complement to the PK 200002 L SH with PJ 300 – Josef Lierzer is one of the first crane drivers to use the new MFA jib.

The function TOOL allows to include various additional devices which are connected via the multifunctional adapter to be included into the calculation of the stability limit for P-Profile cranes.



MFA – basket connection

MFA – pulley head

MFA – load attachment

MFA – installation tip

MODEL OF SUCCESS: THE PK 165.002 TEC 7



As the first model of the new TEC series, the PK 165.002 TEC 7 has been available since the end of 2015. Up to this date, a for this meter-tonnes class significant number of sales was realized in 16 countries all around Europe as well as in the USA, Canada and Asia.

Many of these cranes were mounted at the PALFINGER MCC, the Mounting Competence Center, where options such as different platform variants, a front stabilizer or tool boxes are realized. As the whole structure is completed ex works in these cases, a perfectly coordinated mounting is ensured. Combined with the low gross vehicle weight of less than 32 tonnes, as well as the high tech control

electronics, which are typical for the TEC range, the PK 165.002 TEC 7 is legitimately a popular model in the world of heavy-duty cranes. PALFINGER is looking forward to more successful years with the PK 165.002 TEC 7!



SHOP.PALFINGER.COM

Jackets, watches, helmets or scale models of cranes to collect: the PALFINGER Fanshop for customers is now online.

True fans always want to tell the world. This is true of fans of football or ice hockey teams – and PALFINGER fans are no exception. The online shop for end customers of PALFINGER is full of attractive goods for fans who want to share their enthusiasm with colleagues, family and friends. The Fanshop is now available online, 24/7.

The selection is enormous and includes scale models of cranes – a real high-quality collector's item. These scale models are faithful to their full-sized versions right down to the very last detail and are real eye-catchers, whether in a showcase or on a desk. The PK 200002 L SH is one of the models represented, as is the PK 100002. Even the hook-lifts are there! There is plenty for the office, too, with calendars, bags, pens and USB sticks in the PALFINGER design.

Sporty quilted jackets with the PALFINGER logo are among the Fanshop's most popular products, so you'll always look fashionable when you're out and about, even during your free time. The jackets are produced to the very highest quality and are great value for money. With T-shirts, rucksacks, sports bags, sunglasses, umbrellas, pocket knives or torches, fans have everything they need for any situation. Of course, the Fanshop also offers work and protective clothing such as safety vests and helmets.

For anyone who wants to wear PALFINGER on their wrist, the product range includes a high-quality watch.

And so as not to forget our little fans, the range includes romper suits with a toy crane on the front, a cuddly toy and the PALFINGER board game.

shop.palfinger.com has everything that a fan's heart could desire!



COTTON CAP
Material: 100% cotton
Details: with metal closure

Land KW-00489+PA
Sea KW-00489+MA



MEN'S CHRONOGRAPH

Stainless Steel Case brushed, Bezel black, Dial black Carbon-look, Stopfunction, 24-Hour Dial, Compression Density: 10 ATM (DIN 8310), Hardened mineral glass, Bracelet: Leather strap with carbon design black with large and robust stainless steel buckle, Case Ø: 48 mm KW-00553



LIGHTWEIGHT JACKET

Lightweight quilted jacket with polyester padding, women's model waisted.

Land:	Sea:
Men KW-00579+SIZE	Men KW-00579-MA+SIZE
Women KW-00579W+SIZE	Women KW-00579W-MA+SIZE
size: S–XL	size: S–XL



ORIGINAL LEATHERMAN
Material: 100% stainless steel, with leather case, details: with 17 tools

KW-00022



PK 200002 L SH
with winch, scale: 1:50

MAN KW-200002+MAN
SCANIA KW-200002+SCANIA

THE REACH BOOSTER

The innovative stability control system HPSC-Plus LOAD by PALFINGER helps in case of variable loading on the truck to achieve the loader crane's optimal reach in every situation.

A few more meters of reach with the same loader crane: that is, in times where efficiency and profitability are particularly important, a significant advantage for day-to-day business. HPSC-Plus LOAD, an extension of the well-proven stability control system HPSC, achieves this. "The innovative module includes the inclination and reacts flexibly to the truck's loading. It calculates the maximal load limit for a loaded truck as well as for one without load", explains Michael Völker from PALFINGER. "In this way, the system optimizes the load limit independently in every situation and therefore the reach. Other systems are efficient either with or without loading. We can do both. And this is unique."

Even PALFINGER cannot override gravity, but with innovative concepts, the technicians of the crane producer managed to move the limits of possibilities even further away, without losing in terms of stability. The interaction of two systems is the trick. One stability load limit is defined by HPSC and in addition, HPSC-Plus LOAD defines another one, based on the inclination as additional factor. The reason therefore: An unloaded truck has another stability load limit than a truck which is loaded with several pallets of construction material. HPSC-Plus LOAD uses this variable loading and calculates a second load limit based on the inclination. HPSC and HPSC-Plus LOAD complement each other and take over the task of stability monitoring automatically where necessary. The operator does not have to switch the LOAD module on or off.

HPSC-Plus LOAD is the first module of an innovative modular system which allows the user to match the stability control perfectly to the particular application. The second module HPSC-Plus FSTAB allows a monitoring of the stabilizer rams on TEC 7 models. Finally, the length measurement on the extension system of TEC 7 models enables to include the centers of gravity of the extension system as well as of the load into the stability monitoring system. This function, HPSC-Plus GEOM, is the third and last part of the HPSC-Plus concept.

NEW FEATURES ON CRANE MODELS OF THE SLD RANGE

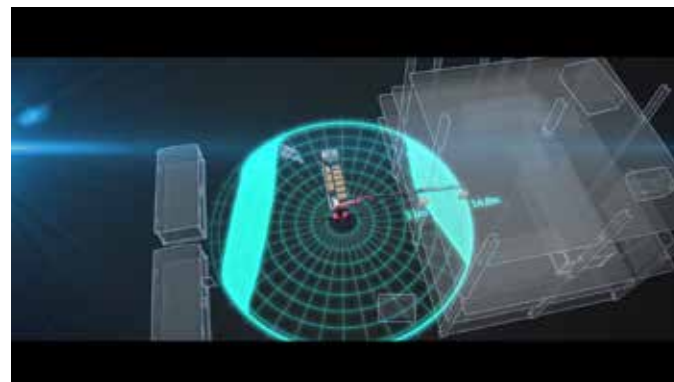
HPSC-Plus LOAD is already available for all SH and TEC 7 models with the radio remote control PALcom P7. With the launch of the new PALTRONIC generation and the resulting facelift of the SLD range, HPSC-Plus LOAD is also available as an option with SLD range models.

Moreover, the further development of the familiar PALTRONIC system permits other new functions to be used on SLD cranes. For instance, an increase of power which switches on automatically when needed or an optical warning, which signalizes the reaching of the critical overload and can be used as an alternative to the conventional horn. Another comfort function is the soft stop for slewing, which is realized with the help of an electronic speed reduction just before the end stop.

Further information regarding these new systems and their availability will follow soon.



Without loading on the truck, the pallet can be lifted to a reach of 11 m.



In case of a half-loaded truck, it is already possible to lift the load almost 6 m further.



HPSC-PLUS LOAD AT A GLANCE

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.
- The actual stability can be fully used thanks to adaption of the system to the real capabilities of the vehicle. The system always has the same level of performance, due to the structured and guided initial set-up process. Other systems change their behaviour significantly depending on the way the truck is positioned and supported.
- No re-calibration during operation.

USER-FRIENDLINESS

- The operator does not need to switch the LOAD module on or off separately.
- Current status query directly on the PALcom P7 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.

APPLICATIONS

- Grab operation: Laying gravel in a water pipe trench without repositioning of the vehicle.
- Construction material transport: Optimised unloading of pallets, by making use of the loading on the truck.
- Assembly work: Unloading over the front of the truck cabin. Any load on the truck serves as a ballast weight for extending the reach.

COMMITMENT PAYS OFF

S-Tech in Endingen is one of PALFINGER's best-performing service partners.

Although the "Vorsprung durch Service" (German for „Lead by Service“) initiative required the company to make an investment, this paid off for S-Tech and its customers.

"When I am on the building site and something goes wrong, I need a reliable contact who responds quickly." Klaus Dinger, managing director of the crane hire company Dinger Baukran Service, knows whom he can rely upon. He has been working with Edgar and Frank

Stiegeler's company S-Tech for years now. The Endingen-based company is a service partner of PALFINGER and specialises in maintaining, repairing and erecting PALFINGER loading cranes.

Just recently, Klaus and Mike Dinger bought a PK 165.002 TEC 7 for their hire company, thereby increasing the number of heavy-duty cranes in their fleet. S-Tech is responsible for erection, service and maintenance. Klaus Dinger values the reliability and competence of the service partner: "I know I can call any time and get answers to my questions." If something goes wrong on a building site, the S-Tech staff grab their toolboxes and head over to repair the device as quickly as possible. Mobile service is a matter of course for S-Tech.

"Nowadays, the availability of equipment and machines is all-important for customers. Our goal is always to offer a prompt solution for the problem at hand," says Frank Stiegeler, co-founder and workshop manager of S-Tech: "If the situation is urgent, we have been known to work through the night or squeeze in extra weekend shifts." S-Tech specialises exclusively in work relating to cranes:

"One of our major advantages is that we perform both the erection and servicing of cranes," says Edgar Stiegeler. This means that capacity can be shifted if necessary, and at the same time customers benefit from the additional expertise of staff. Training and education have always been a priority at S-Tech.

The partnership with PALFINGER began in 2002, when Edgar and Frank Stiegeler became independent installation and service providers. "We rented a small hall with no windows and no heating," remembers Edgar Stiegeler. The company now has 17 staff and is one of PALFINGER's best-performing service partners. Three years ago, when the crane manufacturer redefined the requirement profile for service partners as part of the "Vorsprung durch Service" initiative, S-Tech decided to make the necessary investment. In 2014, they bought a new hall that offered plenty of space for the workshop and range of services. A training room is available for crane-driver training. The service initiative did involve some considerable investment, but meeting the challenges also brought a range of benefits. The company has developed well and customers are satisfied. Service partners benefit from spare parts discounts and can enrol their staff on a training programme. For Stiegeler, this is the right route: "Service ultimately has to be worthwhile." Edgar and Frank Stiegeler feel vindicated in their good work by the service initiative. Or as Klaus Dinger puts it: "Quite simply, the collaboration with the guys at S-Tech is a lot of fun."



MARITIME APPLICATION

PK 110002 SH

“Due to the heavy-duty crane on the truck, we can operate independently at every site – night and day!”

Since 1922, the Dutch company VCU (Visserij Coöperatie Urk) – headquartered in IJsselmeer – has been a major name in the maritime world. VCU’s broad portfolio not only includes services such as ship conversions, power generation and dredging work, but also products such as gas, oil and lubricants. “As a cooperative, we work innovatively so that our members, partners and customers can benefit from our incomparable service, our maritime knowledge and our reliability.”

Today, VCU has four PALFINGER loader cranes in operation. The recently added PK 110002 SH with G extension

boom is mounted on a four axle Scania truck and equipped with lots of maritime options. A combination of stainless steel and galvanized parts enables the use despite the contact with salt water. In concrete, the truck is provided with tailor made toolboxes, a large hydraulic oil tank, a reinforced front stabilizer and a demountable ballast body. In addition, two extra valves for hydraulic accessories as well as extra hydraulics complete the semi-trailer, which is carrying big hydraulic drums with cables to install on the fishery boats.

The application of a heavy duty crane like the PK 110002 SH helps VCU to perform in every situation – a level of efficiency that is hard to beat.



WHO WORKS CLOSE TO THE **LIMIT** NEEDS SOMEONE, WHO KNOWS THE LIMITS. **HPSC-PLUS LOAD**

With the new HPSC-Plus LOAD, the crane is capable of taking varying truck loads into account in its stability calculations. That means that the best possible reach is always ensured. On site, you can operate more flexibly, work faster and reach further, and stay on the safe side at all times. That's efficiency.

LIFETIME EXCELLENCE

