

PELIKAN 180 / 380 / 580

BALANCER CRANE





↑
The Pelikan: always on top of the job

THE PELIKAN: THE GRABBING CRANE.

A PERFECT CRANE SYSTEM
FOR THE HANDLING OF BULK.

The energy generating industry and the steel manufacturing industry require raw materials as well as other additive materials in immense quantities. That means also: enormous quantities of bulk goods must be unloaded in seaports and in the transshipment terminals of steel mills and power stations – often under the pressure of very tight schedules.

Cranes, as high-performance instruments, play a decisive role in this process and have to be reliable and to operate with high efficiency in all possible climatic zones – and at the same time fulfil the demands with regard to handling capacity, geometry and ground pressure limits, etc.

→ **INFO**

What constitutes the best cranes for handling of bulk material? What is decisive?

→ Essentially, on:

- low operating costs
- high productivity

→ More precisely, on:

- efficient and safe handling of bulk material
- maximising the handling capacity
- economical unloading and loading
- low maintenance and operating costs
- long service life

The Pelikan combines all these features.



High-value material for metal processing: metal scrap

OUR ENGINEERS HAVE DESIGNED A MACHINE – FASTER THAN A ROPE CRANE – MORE EFFICIENT THAN AN EXCAVATOR. THE PELIKAN FROM ARDELT: WITH THE **BALANCER COUNTERWEIGHT PRINCIPLE.**

The Pelikan is a fully-hydraulic balancer crane, highly regarded for its robust design. It is especially suitable for the fast handling of scrap and bulk goods in ports and in the recycling industry.

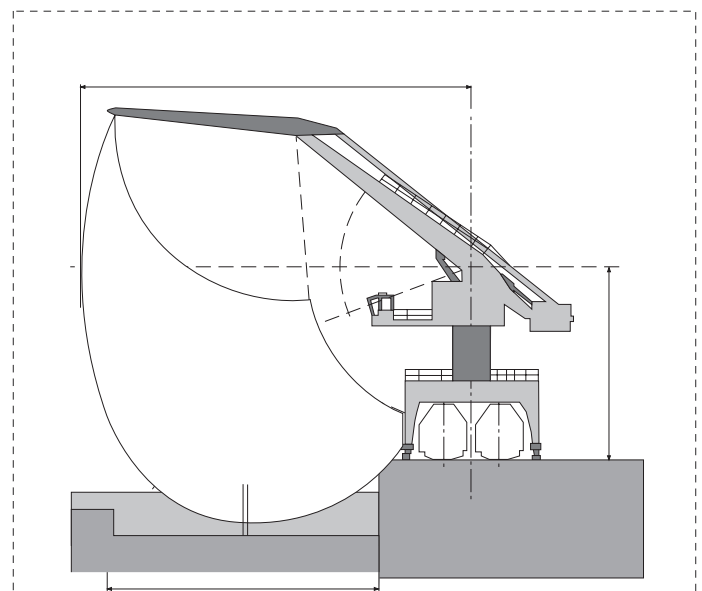
Its luffing system consists of 4 elements: main boom, front boom, tension rod and movable counterweight.

The special feature here is the mechanical coupling between the front arm and the movable counterweight via the tension rod minimises the moments acting on the slewing ring and, additionally, the forces required for luffing. This results in reduced wear and reduced energy costs. A big advantage, especially compared with excavators. Compared with the four-rope slewing crane for bulk material handling, the Pelikan makes use of a technical system advantage: its grab is

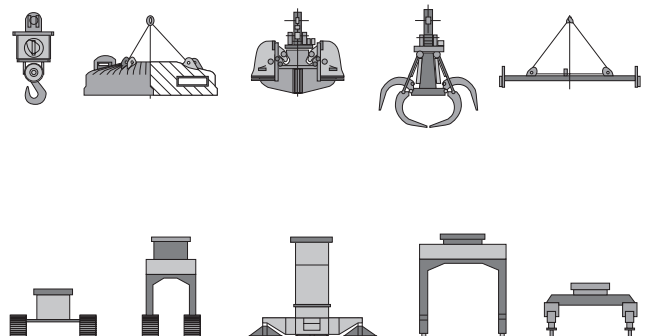
→ INFO

Typical features of the Pelikan

- very robust design: scrap and bulk specialist, ropeless
- extremely efficient: loads of up to 25 tonnes, outreach range up to 40 m
- totally variable: can be equipped with all types of load-carrying devices
- very economical: 25 % higher handling rates compared with rope-operated cranes, less wear than in excavators and rope cranes



Standard outreach variants (m)	20.4	24.7	26.3	31.7	38.1
Standard lifting capacity variants (t)	4	6	10	15	25



↑
Variants of the balancer crane



↑ Customers appreciate the Pelikan because of its large outreaches ...

mechanically coupled directly to the front boom. Thus – in addition to lifting – the Pelikan can also apply pressure of up to 50% of its hoisting load to the goods being handled (bulk material densification). This results in a far better filling of the grab and in a handling capacity increased by up to 25%.

Pelikan also means: wear parts like wire ropes, rope sheaves or mechanical brakes (except for the rail travelling mechanism) do not exist. Therefore the Pelikan is a crane of low maintenance.

Another advantage: the Pelikan is extremely variable. Several kinds of load-carrying equipment can be used, such as a load hook, different types of hydraulic grabs, magnet beams, spreaders and vacuum lifting devices.

The change of position within a short period of time either on crane rails, on crawler travelling gear in rough terrain or on tyres can be selected.

The Pelikan is very reliable in operation, even under the most varied geographical and meteorological conditions.



↑ ... and the large volumes that can be handled

THERE ARE MANY REASONS FOR CHOOSING **THE PELIKAN**. THE MOST COMPELLING ARE:

01 THE JIB SYSTEM

The hydraulic-driven jib system is typical of the Pelikan. With an optimised hinge point between front boom and main boom and with an extremely stable connection of main boom/supporting frame achieved by additional stiffening.

The Pelikan is available in five sizes, each with specific characteristics related to the lifting capacity: Pelikan 180 / Pelikan 280 / Pelikan 380 / Pelikan 480 / Pelikan 580

02 THE HYDRAULIC SYSTEM

The hydraulic system makes the Pelikan safe easy to maintain: thus, for example, optimum accessibility to all elements of the system is assured. To prevent the adverse effects of bad weather conditions and noise emission, the system is

protected within its own noise-insulated compartment. The operational safety is significantly increased by the provision of electronically controlled hydraulic safety systems. For environmental protection an oil tray is installed below the hydraulic aggregate of the Pelikan. The use of bio-degradable oil is possible.

03 THE CONTROL EQUIPMENT

The control equipment of the Pelikan is remarkable in various respects. For the control of the Pelikan, as a matter of principle we use a proportional valve control system. Joystick signals are transformed by means of digital amplifier cards and allow sensitive control, jerk-free and fast operation of the crane. Because of the direct connection of the hydraulic elements to the boom elements handling the load, ropes are not required.



↑ Counterweight

This means extremely low maintenance due to the elimination of wearing parts, such as wire ropes and rope sheaves. Other control elements and factors also have a favourable, i.e. minimising effect on the total energy consumption: the patented movement of the counterweight and the use of a load-sensing pump control.



↑ Hydraulic cylinder



↑ Hydraulic buffer



↑ Current collector

04 THE A-FRAME/SLEWING GEAR

The Pelikan is equipped with two hydraulically driven slewing gear sets, which generate high acceleration, but also assure increased safety and reliability of the crane. Here are the technical details: The slewing gear with an excenter at the output shaft enables an optimum adaptation of the backlash between the pinion and the slewing ring. Thus the slewing ring and the toothing of the slewing gear drives can work even more reliably.

The use of a high-volume slewing gear pump (180 ccm) combined with larger slewing gear motors (80–180 ccm) reduces the operating pressure in the system – and therefore increases the service life of the drive. And there is another, very special feature increasing the operating safety: screw fittings with cutting rings are now used only for pipes up to 12 mm external diameter. In the case of larger nominal diameters, special couplings are used. These screw couplings offer maximum safety in case of higher loads, such as pressure surges, vibrations, alternating bending moments and temperature variations. All this means: Pelikan slewing gears work even longer now.

05 THE MACHINERY ROOMS

The Pelikan is equipped with noise-insulated machinery rooms and diesel aggregates.



↑ Machinery room

06 THE OPERATOR'S CABIN

The Pelikan fulfils all preconditions for achieving high handling performance. This also includes an optimum working environment for the operator. An ergonomic, air-conditioned cabin providing best visibility of the working area is therefore a key feature of the Pelikan.



↑ Operator's cabin

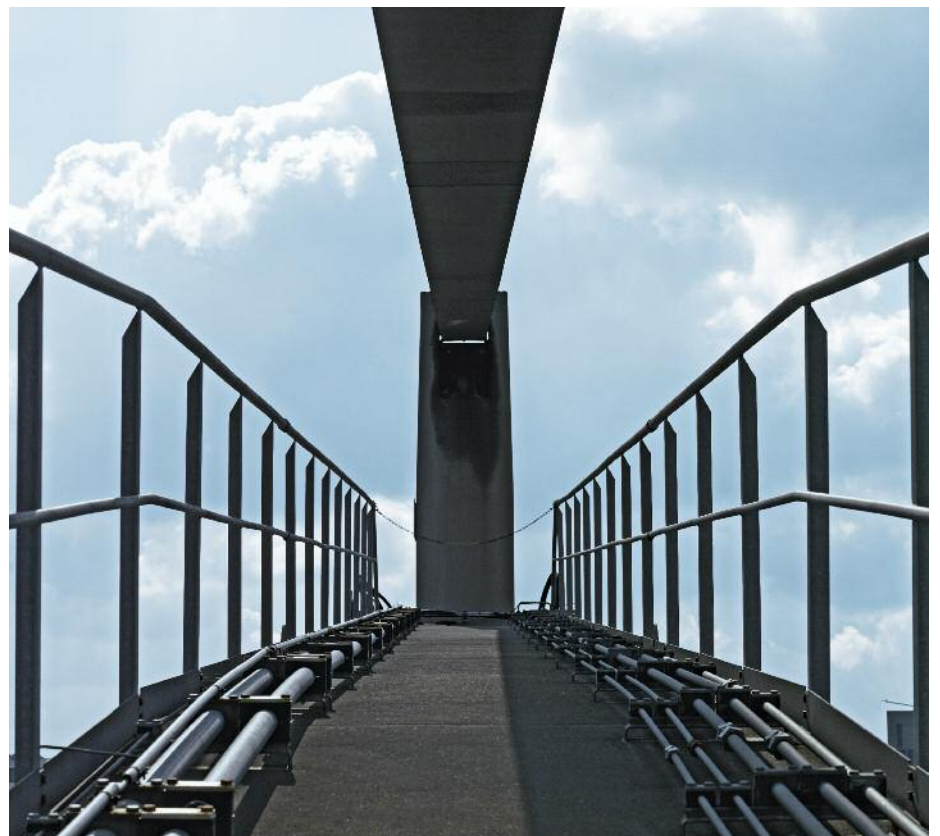
07 THE PORTALS

Pelikan portals are precision work. We manufacture these to exactly match the prevailing on-site conditions. Alternative versions are available with high or low portals, either rail-mounted or travelling on bogies with rubber wheels or crawler drives. Stationary variants are also produced with claws to provide bracing support or with permanent anchoring to the ground.

The optimum connection of the box-type girder with the tower segment is also typical of the Pelikan. In this way, we have created a portal design correctly supporting the imposed loads and providing a longer service life.



↑ Portal



↑ Accessible main boom

THE THEORY: HIGHEST PERFORMANCE HANDLING RATES WITH FULLY HYDRAULIC OPERATING SYSTEM THE PRACTICE: THE PELIKAN.



↑
Pelikan in operation: handling scrap

The Pelikan is used to best effect where large quantities of bulk material and scrap metal have to be handled: in scrap yards, in steel mills, but also in other types of industrial applications and ports.

It is an extremely cost-effective machine for these special handling operations, because: one Pelikan can often replace

several smaller machines (thanks to its high lifting capacities at large outreaches) and achieves the highest handling rates. Due to its ability to press into the bulk material by 50% of its lifting capacity, storage and transport volumes can be reduced. Pelikan grabs are filled to an optimum level during each and every lift – an invaluable advantage, for example,

when unloading seagoing vessels and ships for inland waterways under the pressure of extremely tight schedules.

Last but not least, the Pelikan can be adapted to all possible local conditions: it can be equipped with various types of portal design and many different types of load-carrying devices.

WHY ARDELT?

CRANE CONSTRUCTION SINCE 1902.

→ KNOW HOW

In the field of balancer cranes, Ardel is one of the world market leaders. In the field of double girder cranes, we are the world market leader.

During the constant further development and design work, our engineers consistently apply the proven methods and rules of the German engineering industry. The classification and categorisation of the cranes for continuous operation is carried out in an especially rigorous manner. The aim always remains the same: to increase the efficiency, safety and environmental aspects of the cranes.

→ QUALITY

Quality means for us: a sophisticated product concept, thorough knowledge in the fields of design and control as well as high precision in fabrication and production. It goes without saying that our engineers meticulously inspect and test all mechanical and electrical sub-assemblies.

The decisive benefits:

- high performance and reliability of the cranes
- low operating costs
- long service life (even under the severest operating conditions).

→ SERVICE

Excellent service means for us, among other things: to be present and available. After all, it is always possible that something unforeseen happens. Therefore you can always contact us 24 hours a day via hotline. In order to assure your safety and satisfaction we employ only highly qualified engineers and technicians in the Customer Service Department. And last but not least, we place great value on comprehensive and

technically sound training and support of your employees.

→ PARTNER APPROACH

The Pelikan is a product with an extremely long service life. The decision to choose the Pelikan is synonymous with the start of an extensive customer/supplier relationship confirmed repeatedly by follow-up orders.

We therefore place great value on developing this relationship to provide fair and long-term benefits to both parties. This starts long before the signing of a contract. We will be pleased to advise you, simply give us a call.



↑ The Ardel company building in Eberswalde



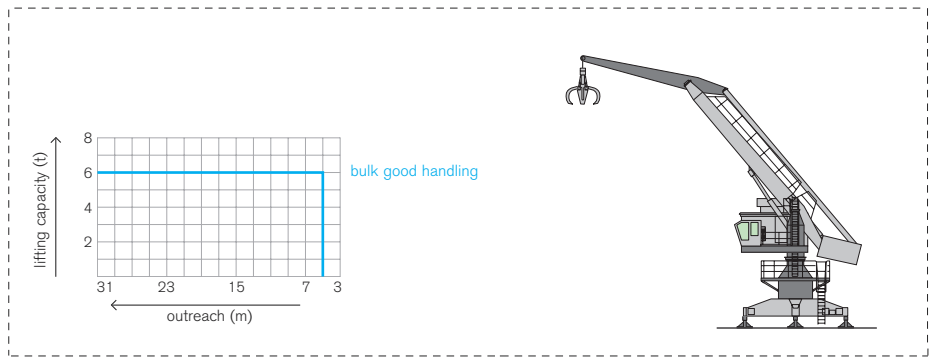
↑ The offices

THE PELIKAN – THE ESSENTIAL TECHNICAL DATA.

PELIKAN 180



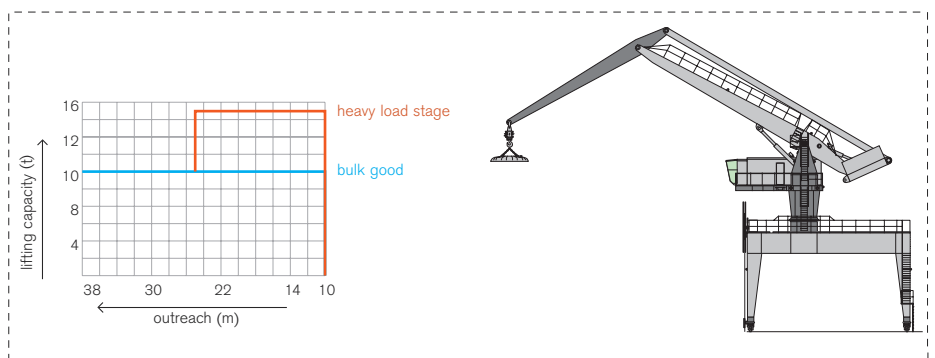
- Working speeds ($\pm 5\%$):
- Lifting capacity 4 to 6 t
 - Outreach up to 31 m
 - Handling capacity 180 to 300 t/h*
- *DEPENDENT ON TYPE OF GRAB AND TYPE OF BULK



PELIKAN 380



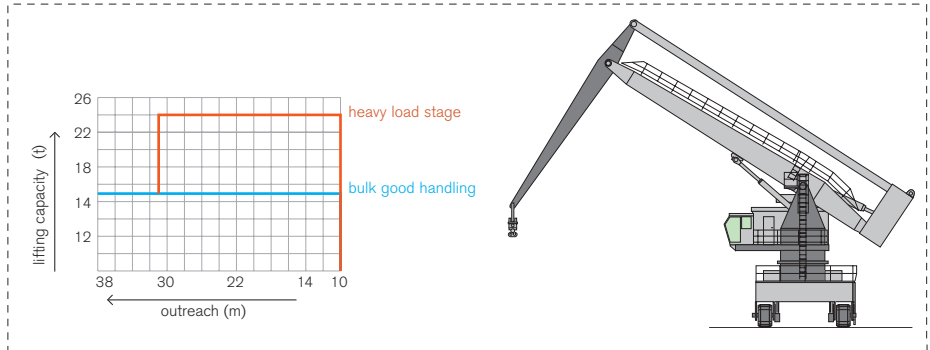
- Working speeds ($\pm 5\%$):
- Lifting capacity 9 to 12 t
 - Outreach up to 38 m
 - Handling capacity 300 to 500 t/h*
- *DEPENDENT ON TYPE OF GRAB AND TYPE OF BULK



PELIKAN 580



- Working speeds ($\pm 5\%$):
- Lifting capacity 15 to 25 t
 - Outreach up to 38 m
 - Handling capacity from 500 to 700 t/h*
- *DEPENDENT ON TYPE OF GRAB AND TYPE OF BULK



KRANUNION. WORLD MARKET LEADERS UNITED.

Kranunion is an association of three world market leaders who have specialised in lifting and transporting heavy loads:

- KIROW is the world market leader for railway cranes and slag pot carriers
- ARDELT is the world market leader for double jib level luffing cranes
- KOCKS is the world market leader for Goliath cranes

Central to all Kranunion products are the technical design concepts created by our experts. Of course, we continue to optimise those fundamental concepts even further in the interests of our customers. Kranunion products are therefore based on practical requirements and are a symbiosis of tradition and innovation combining the tried and tested with the new.

Customers who choose Kranunion choose great German engineering skill: for environmentally-friendly and safe, modern technology, for low operating costs, for high performance and reliability.

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