

KRANICH 500 / 1000 / 3000

SINGLE JIB CRANE





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The Kranich in operation as shipyard crane

THE KRANICH: THE TAILOR-MADE CRANE.

A PERFECT CRANE SYSTEM:
FOR DOCKS, SHIPYARDS, HARBOURS.

From a distance, single-jib cranes still correspond to the classical image of a crane. The vertical column and the upward-pointing jib remind everyone of the long neck and bill of the bird with the same name. On closer examination, single-jib cranes are very modern machines and play a decisive role as high-performance instruments in the cargo handling business – especially on older terminals.

Limitations are often prevailing in this field, for instance due to specified permissible quay loads, limitations with regard to the possible rear outreach or particularly small gantry gauges. Such conditions call for tailor-made cranes.

→ INFO

What constitutes the best tailor-made single-jib cranes?
What is decisive?

→ Essentially, on:

- low operating costs
- high productivity rates

→ More precisely:

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

The Kranich combines all these features.



No problem: bulk good handling

OUR ENGINEERS HAVE DEVELOPED CRANES ON QUAYS: WITH LOW PERMISSIBLE CORNER LOADS AND **SMALL GANTRY GAUGES**. THE KRANICH.

First of all, the Kranich is a light-weight crane predestined for use in areas unable to withstand high loadings: such as old quays and light-weight crane tracks.

Another excellent feature of the Kranich is its flexibility: we are able to adapt it to any requirements (geometry, classification, operating speeds, ground pressures). It can also be equipped with all available types of load-carrying equipment, from hook via grab to spreader.

→ INFO

Typical features of the Kranich

- classic construction: optionally available in large-diameter tubular, or block column version
- light in weight: low wheel loads, predestined for use as a dock crane.
- extremely low-maintenance: special jib system, toothed-rack luffing gear or rope luffing gear
- totally tailor-made: adaptable in every aspect (geometry, classification, operating speeds, ground pressures, load capacity)



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Special operation of a Kranich: handling of general cargo



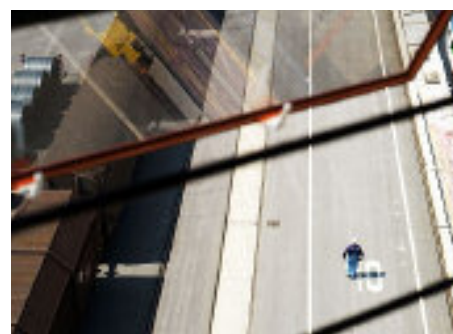
A light-weight crane for heavy loads

Moreover the Kranich is extremely easy to maintain. With regard to the jib, for example: the tip can be lowered to the ground. Thus unimpeded access to the rope sheaves is possible in this area without auxiliary equipment and extra expenditure. The replacement of the ropes is also made significantly easier. The toothed rack luffing gear of the Kranich is also very safe and easy to maintain. Compared with hydraulic cylinders, there are less failures and operating costs will be saved.

In addition, the Kranich has an excellent energy balance – due to the feedback of the braking energy into the feeding net. Its low primary energy consumption is

even more reduced by means of state-of-the-art power converters.

The Kranich, optionally manufactured with a large tubular column or a block-type column, is a cost-effective alternative compared with a crane with articulated luffing jib system. Since 1950 we have delivered this crane approx. 700 times, to 4 continents. It operates very reliably in those locations, even under the most varied geographical and meteorological conditions, whether these are sub-zero regions with ambient temperatures as low as -55°C , or hot and moist tropical regions as high as $+50^{\circ}\text{C}$ or, for example, regions subject to sandstorms.



Good visibility

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

THE TECHNICAL HIGHLIGHTS.



↑ The jib system

01 THE JIB SYSTEM

The Kranich with its low-maintenance jib system is manufactured in three sizes and lifting capacity classes: Kranich 500; Kranich 1000, Kranich 3000.

02 THE HOISTING GEAR

We have optimized our hoisting gear through decades of development, so that we are able to guarantee highest performance and best availability. These are equipped as standard with compact, high-performance planetary gears of modular design. Thus, we achieve weight and cost savings.

03 THE SLEWING GEAR

The slewing gear of the Kranich has, from its use in thousands of cranes, shown itself to be a compact and low-maintenance system. It consists of one or several drive units with planetary gears. The slewing gear can be installed with a slewing ring in case of a big tubular column or with a block-type column with the following special features: a) supporting ring for the slewing roller rockers and b) step bearing supporting the whole block column. The excellent accessibility to all components of the slewing gear is assured, in both cases.

04 THE TRAVELLING BOGIES

In case of the Kranich travelling bogies, we use only well proven components from well-known suppliers, because we consider reliability as a cardinal virtue. Travelling bogies from Ardelt characteristically have an extremely robust construction with one very special feature: the driving connections between drive and drive shaft have involute toothing. This makes it possible to replace the drive units without problem. Ardelt travelling bogies are modular in design and - as modules - can be combined on travelling gear rockers. Thus these can easily meet all requirements resulting from the infrastructure of the respective installation site.

By the way: in comparison to rubber-tyred travelling bogies, rail mounted travelling bogies are less expensive as far as purchasing and maintenance are concerned, because there will no longer exist high costs of tyres.



↑ Reliable hoisting gear block



↑ The slewing gear



↑ Travelling bogie modules

05 THE CONTROL SYSTEM

In respect of the control system, Ardelt is synonymous with an established and integrated knowledge chain: right from the electrical design stage via programming to fabrication and testing. This is a fact, which – apart from comfortable operation of the crane – also gives the customer the satisfaction of always having state-of-the-art equipment. Whether this concerns the components or advanced functions, such as the remote maintenance.



↑ Open switch cabinets become more and more accepted



↑ Visualisation of crane dates via the crane management system



↑ Clearly arranged and ergonomically installed operating elements on the crane control stand

06 THE ELECTROCONTAINER

We install exclusively first-class components in the modular designed Kranich electrocontainer. We manufacture the control cabinets in Eberswalde, install these completely, test these meticulously and then deliver these as a compact unit together with the operator's cabin.

The advantages:

- well-arranged structure due to the modular design
- high-quality components and functional testing quality
- low freight costs due to reduced dimensions
- less installation work during erection.

07 THE OPERATOR'S CABIN

Ardelt operator's cabin is a tailor-made product developed from standardised designs. We design and build the cabins in accordance with customers' requirements resp. the operating conditions on site.

08 THE PORTALS

The Kranich portals are precision work. We manufacture these to match exactly the prevailing on-site conditions. Gantry gauges of 2.5 - 90 m are possible as well as asymmetrical portals. Even cranes with hook heights of up to 60 m

with corresponding large-diameter tubular or block-type column heights of up to 50 m have already been realised by us. The Kranich can of course also be supplied as a stationary crane, without travelling bogies – in this case, too, its low weight is a great advantage.



↑ Ardelt portals are always precision work.

THE THEORY: HIGH FLEXIBILITY, LOW OPERATING COSTS. THE PRACTICE: THE KRANICH.

THE KRANICH IN OPERATION.



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A crane for any time of the day

The Kranich is a classical cargo-handling crane, but actually an all-rounder. Bulk cargo handling can be carried out as easily as operation by special types of load-carrying equipment, such as lifting magnets, coil tongs and spreaders. Its full strength is in general cargo handling, especially handling of heavy loads and heaviest loads. For this reason, the Kranich is also indispensable for the modern operating procedures on ship-

yards – that's why important shipyards world-wide belong to the users of Kranich cranes.

Due to its light weight, it is also excellent for use in docks and on floating docks, where Kranich cranes can be positioned with complete stability on side-walls on narrowest tracks, for instance on a huge floating dock in Bahrain. The Kranich is highly approved due to its versatility in operation,

furthermore in ship breakers' yards. An absolutely impressive feature of Ardelt's single-jib crane is the fact that it can very easily be adapted to suit any kind of infrastructure and all possible customer requirements (hoisting heights, gantry gauges, outreach and hoisting capacity). The Kranich is in that respect a marvellously reliable machine: whether in the rail-mounted version or as a stationary crane.

WHY ARDELT?

CRANE CONSTRUCTION SINCE 1902.

→ KNOW HOW

In the field of cranes with double girder level luffing cranes, Ardel is the world market leader. The technical basis, the patent of the year 1932 "Patent on the articulated luffing jib system" is consistently developed further.

During the constant further development and design work, our engineers consistently apply the proven methods and rules of the German engineering. 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 subassemblies.

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 our 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 Kranich is a product with an extremely long service life. The decision in favour of the Kranich 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.



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The Ardel company building in Eberswalde



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The offices

THE KRANICH – THE ESSENTIAL TECHNICAL DATA.

AN OVERVIEW OF THE KRANICH.

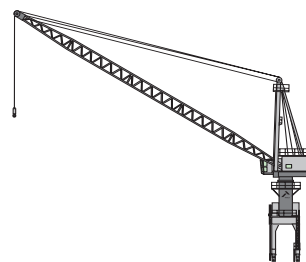
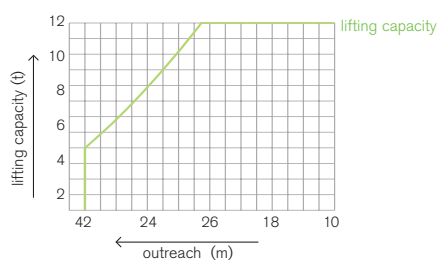
KRANICH 500



Working speed ($\pm 5\%$):

- hoisting/lowering from 0 m/min to 50 m/min*
- slewing from 0 r.p.m. to 1.5 r.p.m.*
- luffing from 0 m/min to 40 m/min*
- travelling speed up to 40 m/min*

*LOAD-DEPENDENT



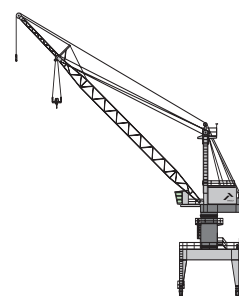
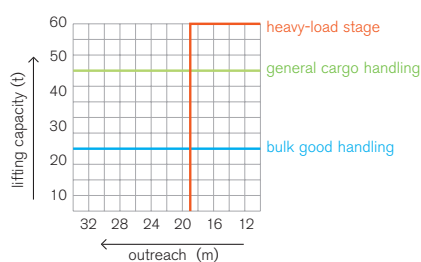
KRANICH 1000



Working speed ($\pm 5\%$):

- hoisting/lowering from 0 m/min to 90 m/min*
- slewing from 0 r.p.m. to 1.5 r.p.m.*
- luffing from 0 m/min to 60 m/min*
- travelling speed up to 30 m/min*

*LOAD-DEPENDENT



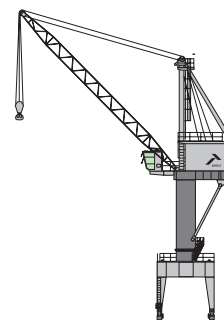
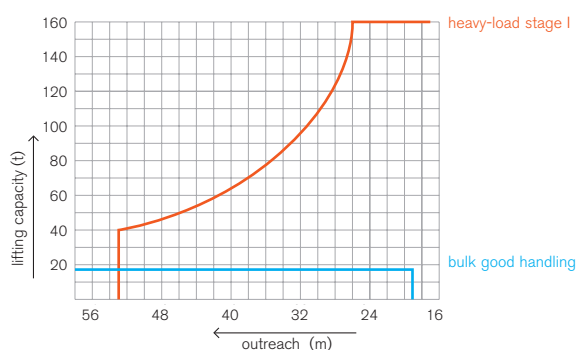
KRANICH 3000



Working speed ($\pm 5\%$):

- hoisting/lowering from 0 m/min to 25 m/min*
- auxiliary hoist from 0 m/min to 60 m/min
- slewing from 0 r.p.m. to 1.2 r.p.m.*
- luffing from 0 m/min to 60 m/min*
- travelling speed 32.0 m/min*

*LOAD-DEPENDENT



OVERVIEW

	→ <u>RIVER PORTS</u>	→ <u>BIGGER RIVER PORTS AND SEA PORTS</u>	→ <u>SEA PORTS</u>
<u>Crane Type</u>	Kranich 500	Kranich 1000	Kranich 3000
<u>Outreach</u>	20 / 25 m	32 / 40 m	40 m – 70 m
<u>Capacities heavy load operation (A2/A3)</u>	25 t x 20 m	50 / 60 t x 20 m	120 t x 30 m* 140 t x 25 m*
<u>Capacities general cargo (A5/A6)</u>	20 t x 25 m	40 t x 25 / 35 m	50 t x 50 m
<u>Capacities Bulk Handling (A8)</u>	10 t x 25 m	20 t x 32 m 25 t x 40 m 32 t x 32 m	32 t – 50 m 40 t – 50 m

*OPTIONAL

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 carrier
- 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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