

SMARTER HOW?

Konecranes is everywhere in the paper and forest industry with a long history and a solid reputation. We are known for providing high-quality, long-lasting lifting equipment and services that boost efficiency, safety and productivity. Our offering covers an extensive variety of lifting solutions for the industry, from the smallest chain hoist to large, heavy-duty cranes and automated storage systems followed by lift trucks for handling bales, rolls and containers. Our equipment is supported by specialized maintenance services available around the globe.

Smarter where? On your bottom line.

konecranes.com

SMARTER WHERE IT MATTERS

IN THE PAPER AND FOREST INDUSTRY



**WATCH THE GREETINGS FROM
PANU ROUTILA, KONECRANES
PRESIDENT AND CEO**


SMARTER WHERE IT MATTERS

in the paper and forest industry



Book facts

SMARTER WHERE IT MATTERS
IN THE PAPER AND FOREST INDUSTRY

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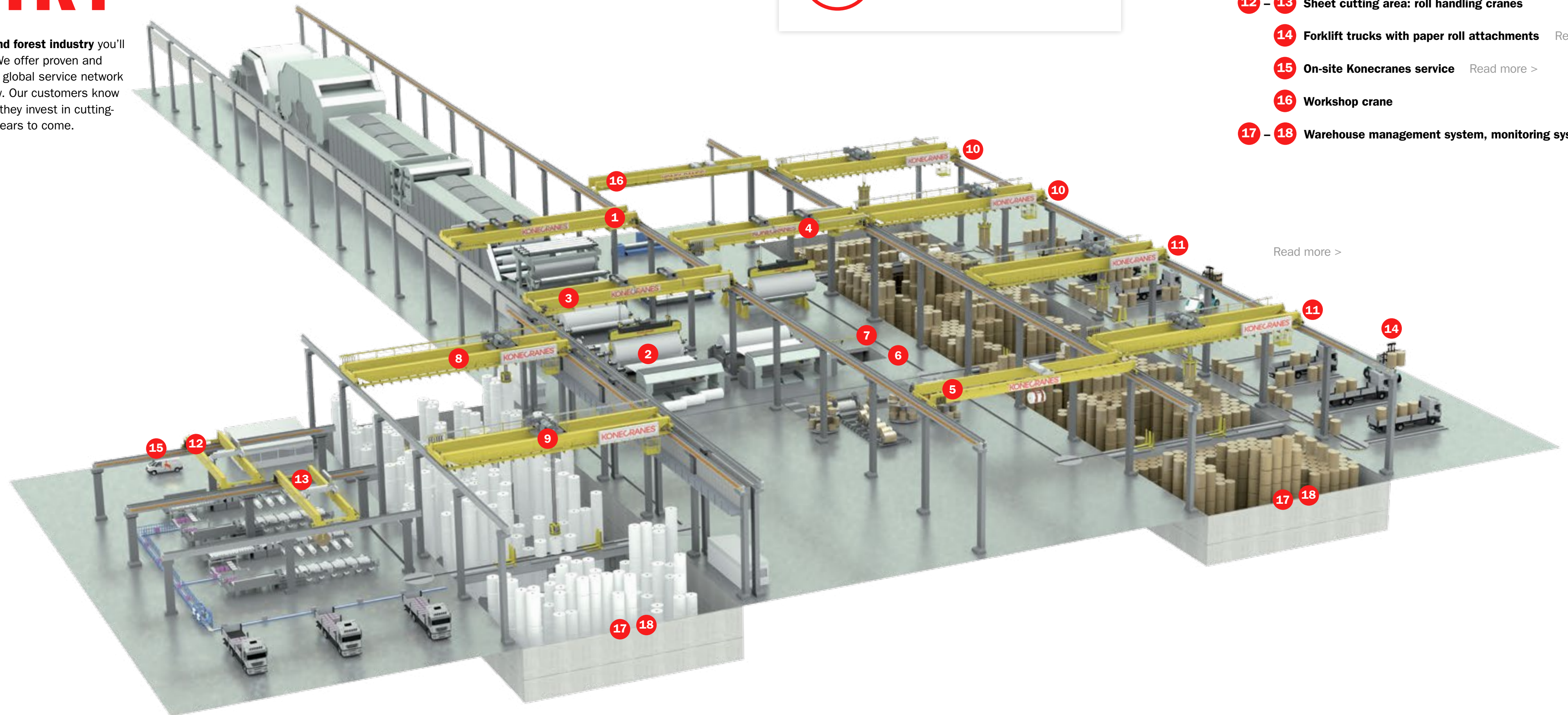
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KONECRANES IS EVERYWHERE IN THE PAPER AND FOREST INDUSTRY

Everywhere you look in the paper and forest industry you'll find Konecranes expertise at work. We offer proven and innovative lifting solutions, a reliable global service network and leading paper industry know-how. Our customers know that when they choose Konecranes, they invest in cutting-edge process productivity for many years to come.



- 1 **Wet end crane** [Read more >](#)
- 2 **Automatic parent roll handling**
- 3 **Dry end crane** [Read more >](#)
- 4 **Winder crane**
- 5 **Roll wrapping crane**
- 6 **Core tube storage crane**
- 7 **Core handling jib crane**
- 8 - 9 **Automatic intermediate roll storage** [Read more >](#)
- 10 - 11 **Automatic shipping storage** [Read more >](#)
- 12 - 13 **Sheet cutting area: roll handling cranes**
- 14 **Forklift trucks with paper roll attachments** [Read more >](#)
- 15 **On-site Konecranes service** [Read more >](#)
- 16 **Workshop crane**
- 17 - 18 **Warehouse management system, monitoring system**

[Read more >](#)

DECADES OF EXPERIENCE DEDICATED TO YOU

Konecranes has been meeting the needs of the paper and forest industry for decades. Our expertise allows us to offer lifting equipment and services for every part of your operation – starting with the unloading of raw materials and continuing almost every step of the way to the shipping of your finished paper products. We have end-to-end expertise covering planning, engineering, delivery and commissioning as well as maintenance, modernizations and other services.

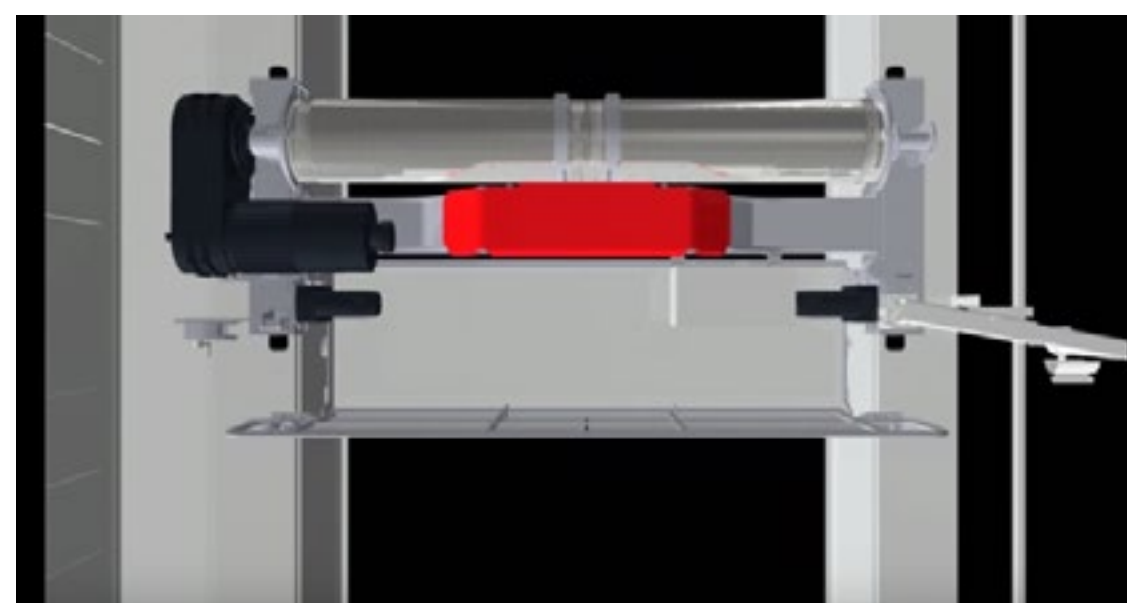


WATCH THE SCA MANNHEIM GERMANY VIDEO

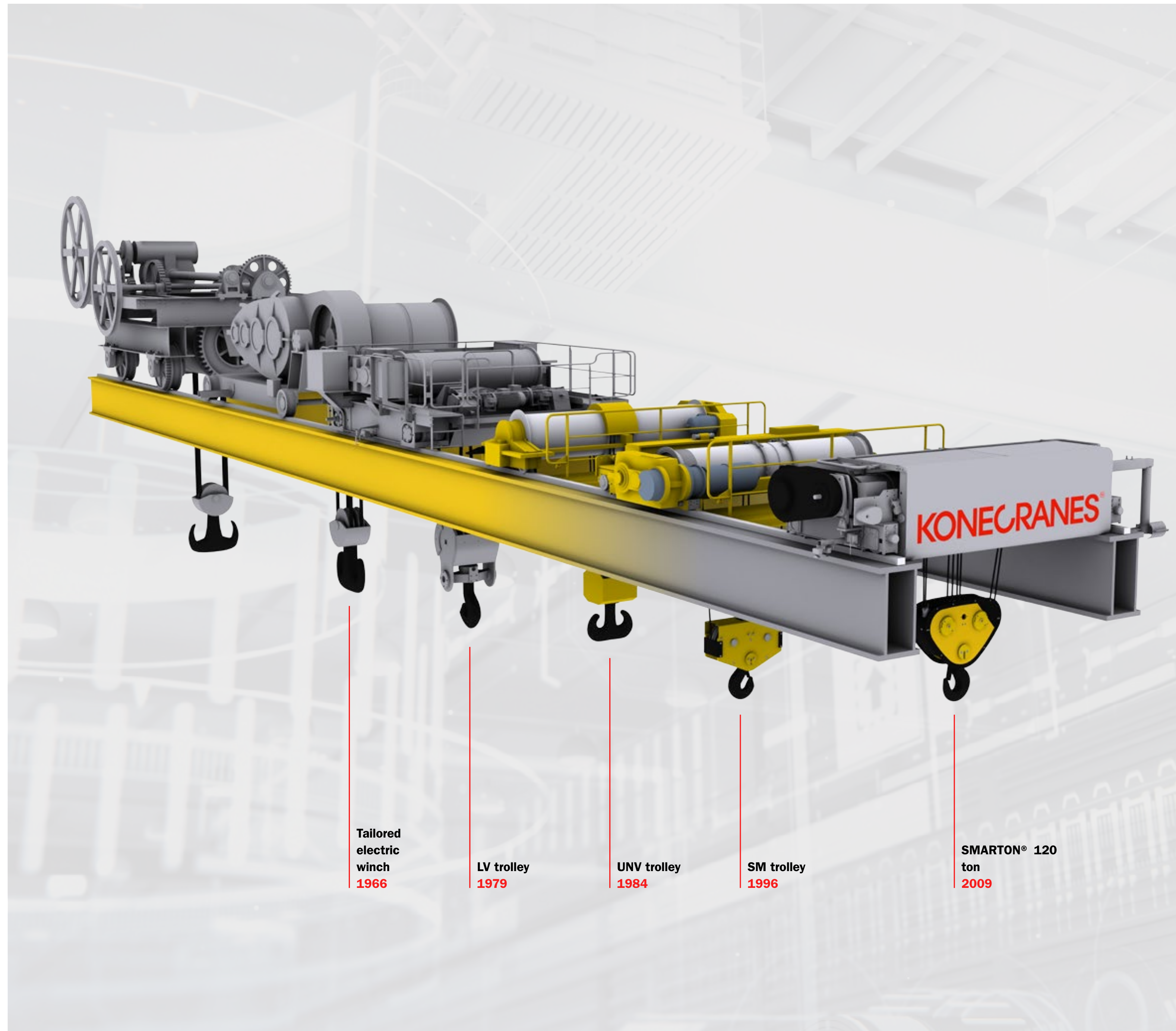


WITH EVOLUTION EVERYTHING IS POSSIBLE

Konecranes is committed to continuously developing its equipment and services offering by making innovative use of the latest technology. We research, develop and implement new product enhancements – such as TRUCONNECT Remote Service and Smart Features – that help give our customers exceptional crane performance and fast, reliable data access.



WATCH THE SMARTON PITSTOP VIDEO



Tailored electric winch
1966

LV trolley
1979

UNV trolley
1984

SM trolley
1996

SMARTON® 120 ton
2009

OUR FUTURE HAS A HISTORY

1936 This manually operated trolley of 45 ton capacity entered production in 1932 at the Helsinki factory. KONE would not begin manufacturing electric hoists until 1936, when it began thinking of itself as a crane company as well as an elevator supplier.

1968 This is a semi-gantry type crane, a typical solution at the time for parent roll handling. Speed control was not highly developed, so short ropes and slow speeds were needed to achieve the required positioning accuracy.

1984 Paper machines become wider and faster. Advanced speed control appears on the scene, and manufacturing technology leaps ahead. The requirements for crane capacity, safety and speed follow these trends.

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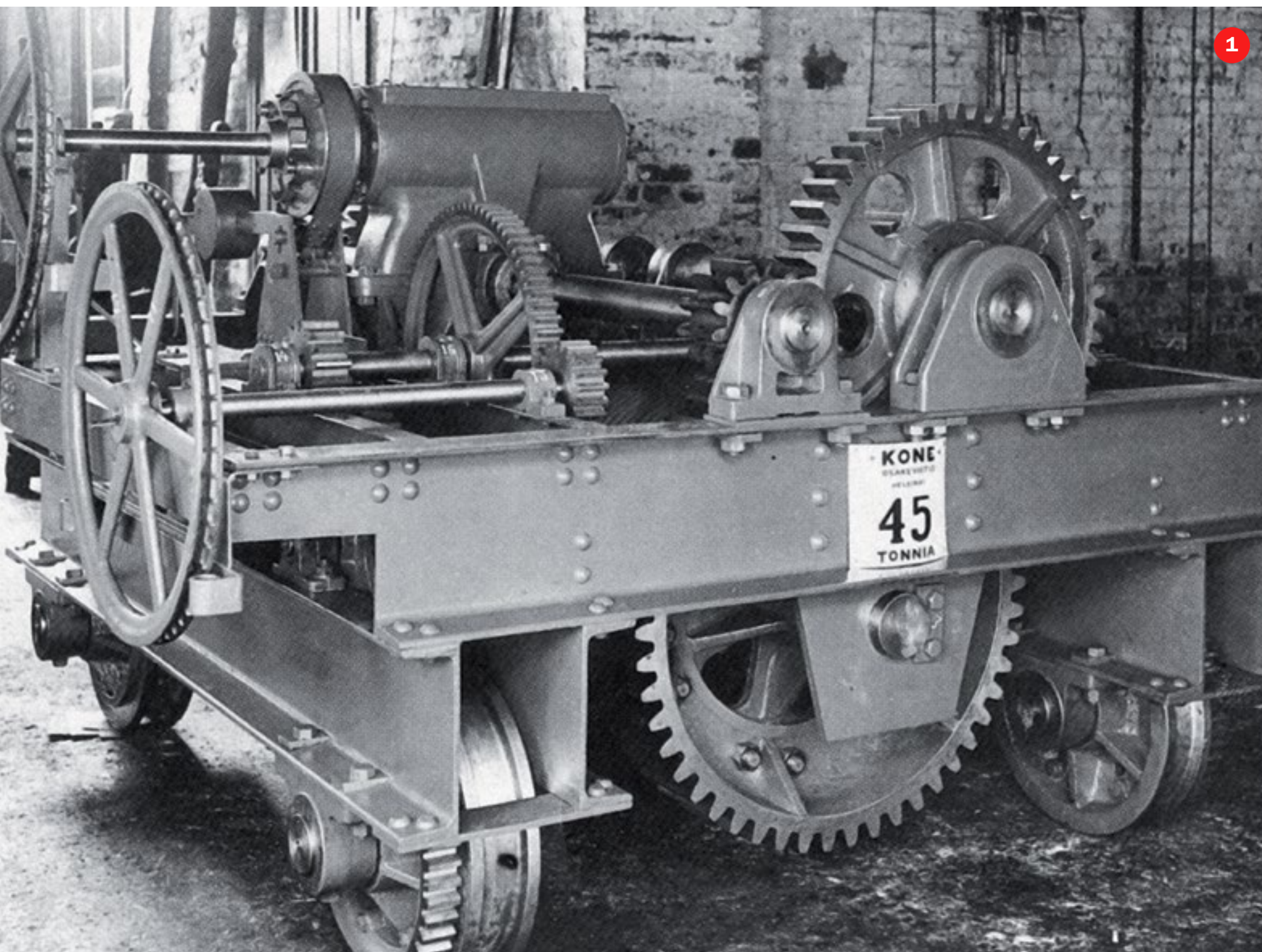
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1963 The first service vehicles were 2CV models built by Citroën. They proved to be much too small. Here two KONE employees pose proudly beside KONE's first proper service car, a 1963 Peugeot.

1970 KONE began supplying complete log intake and slashing systems and would become a leading supplier of key wood yard process equipment in the 1970s.

1994 Iggesund Paperboard was a forerunner in Sweden, investing in a fully-automated paper roll storage system that improved the use of storage space and improved productivity. It also made paper roll handling smoother, reducing damage and deformation of the rolls.

KONE's sale of the crane business. KCI Konecranes started out as an independent company.



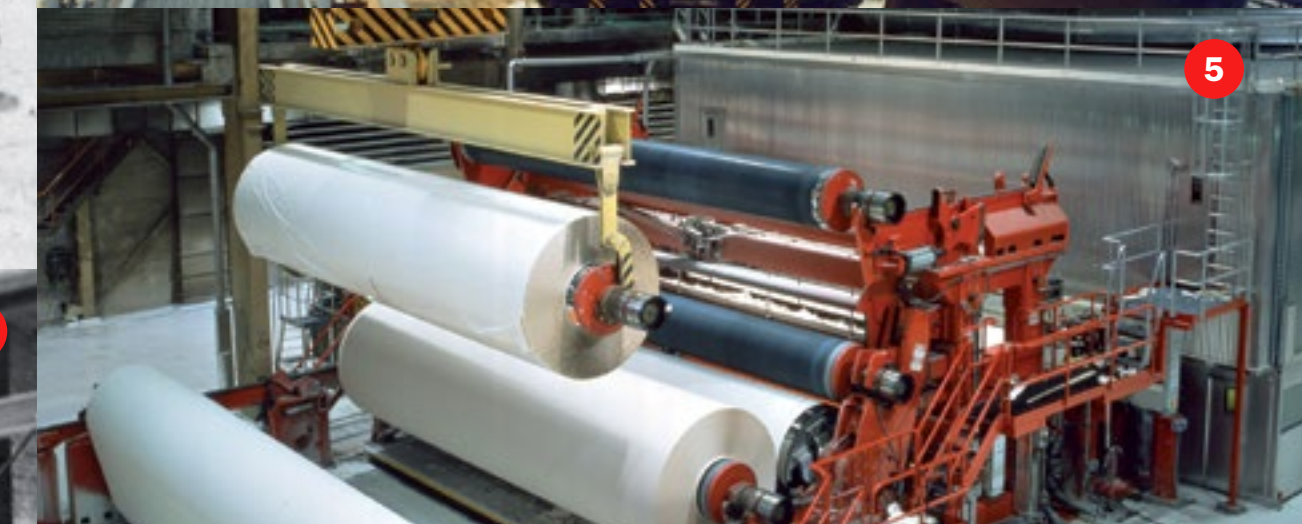
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**WE SEE THE
FOREST AND
THE TREES**

GOOD FOR BUSINESS AND ENVIRONMENT

Being a good corporate citizen is important to Konecranes. Our approach to corporate responsibility is clear from our intention to be here for the long run. We are committed to lifting our customers' businesses responsibly.

For us at Konecranes, corporate responsibility means that business operations are responsible economically, socially and environmentally. These three areas must be taken care of and be in balance for long-term success. Corporate responsibility is part of our everyday business – starting with the company mission and vision, and guided by our policies and Code of Conduct.

We always consider environmental issues throughout the lifecycle of every one of our products. In particular, we ensure the efficient use of materials, recyclability and the conservation of energy. Over 98 percent of the materials used to build a typical Konecranes crane are recyclable. Our equipment can be fitted with energy-saving frequency converter technology, feeding up to 30 percent of braking energy back into the network.

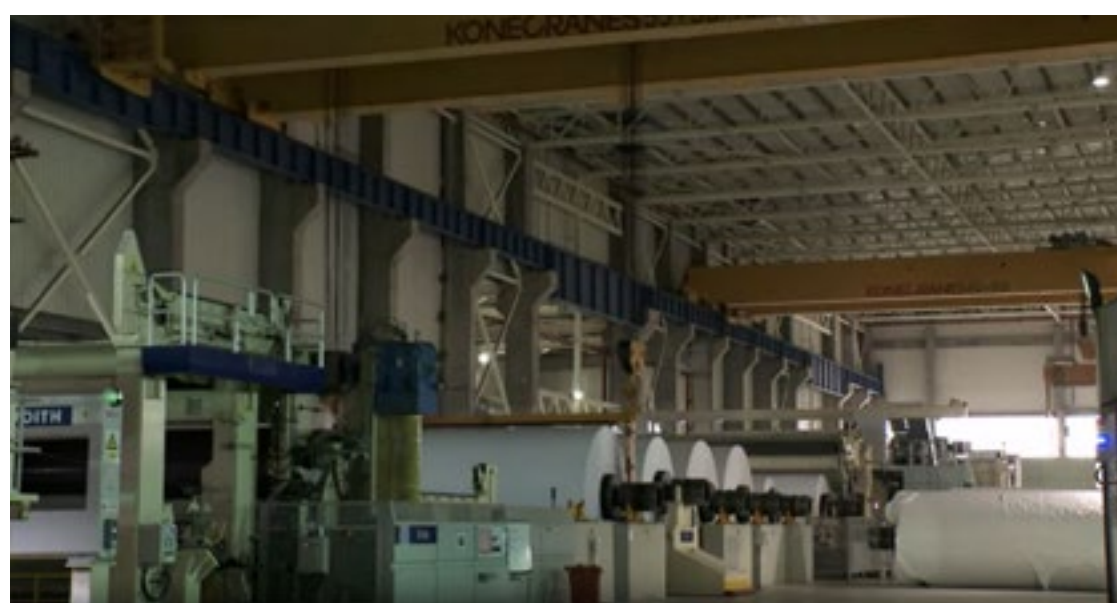


DESIGNED FOR EFFICIENCY AND UPTIME

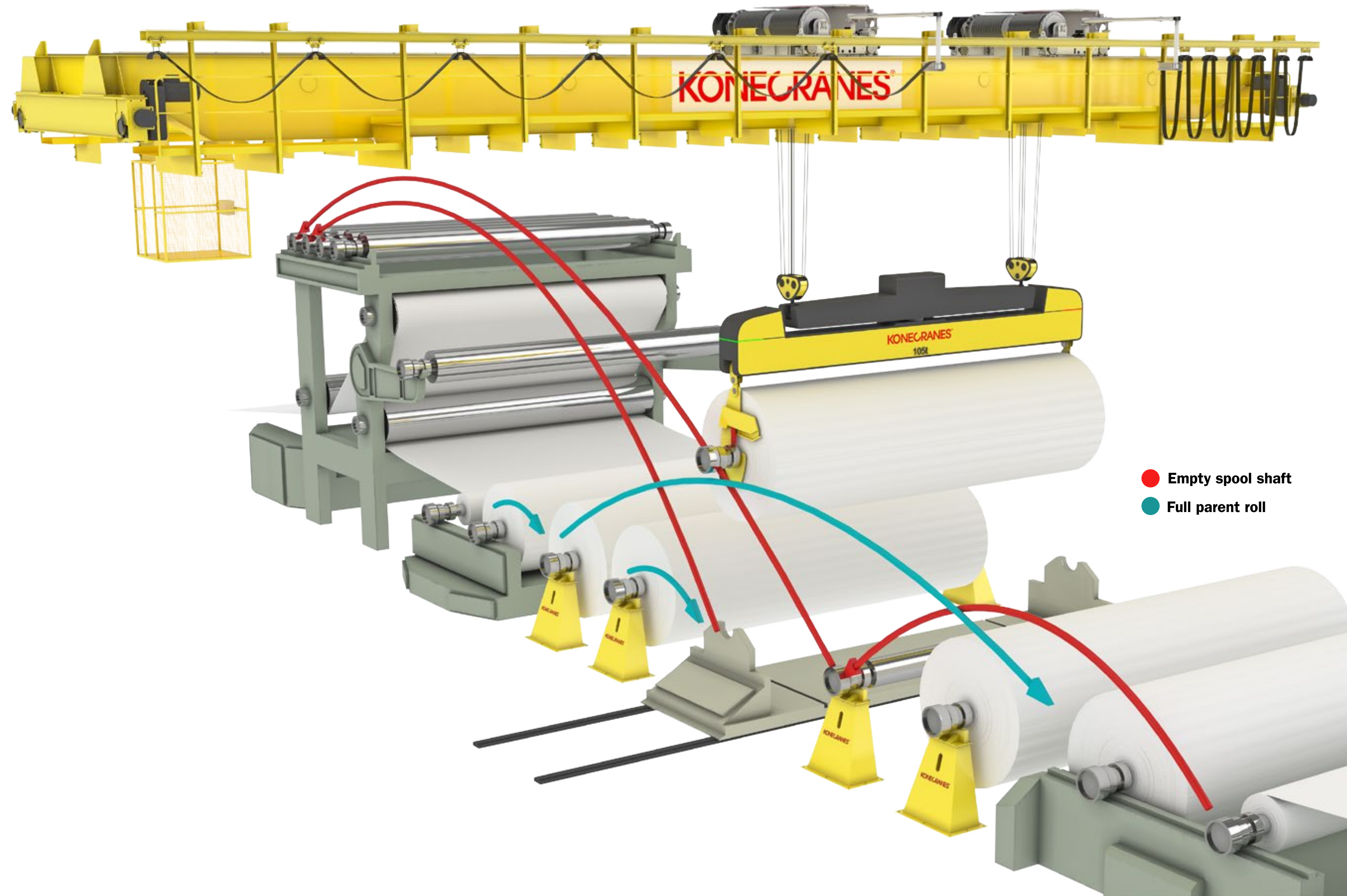
We dedicate our unparalleled experience and expertise to help you maximize efficiency and avoid costly problems right from the start.

One of our primary objectives is actually quite simple: to reduce the amount of equipment in your process by developing more efficient and less costly ways of using your equipment.

We replaced some conveyor rails with roll stands. This update reduced construction costs and made roll handling more efficient – any roll could be selected for lifting. Lifting beam hooks with mechanical locking devices and positioning sensors now provide better operational safety in both manual drive mode and semi-automatic drive mode. We also added smart functionalities to the cranes, so more tasks can be carried out with the lifting beam hooks.



WATCH THE OJI PAPER CHINA VIDEO



- Empty spool shaft
- Full parent roll

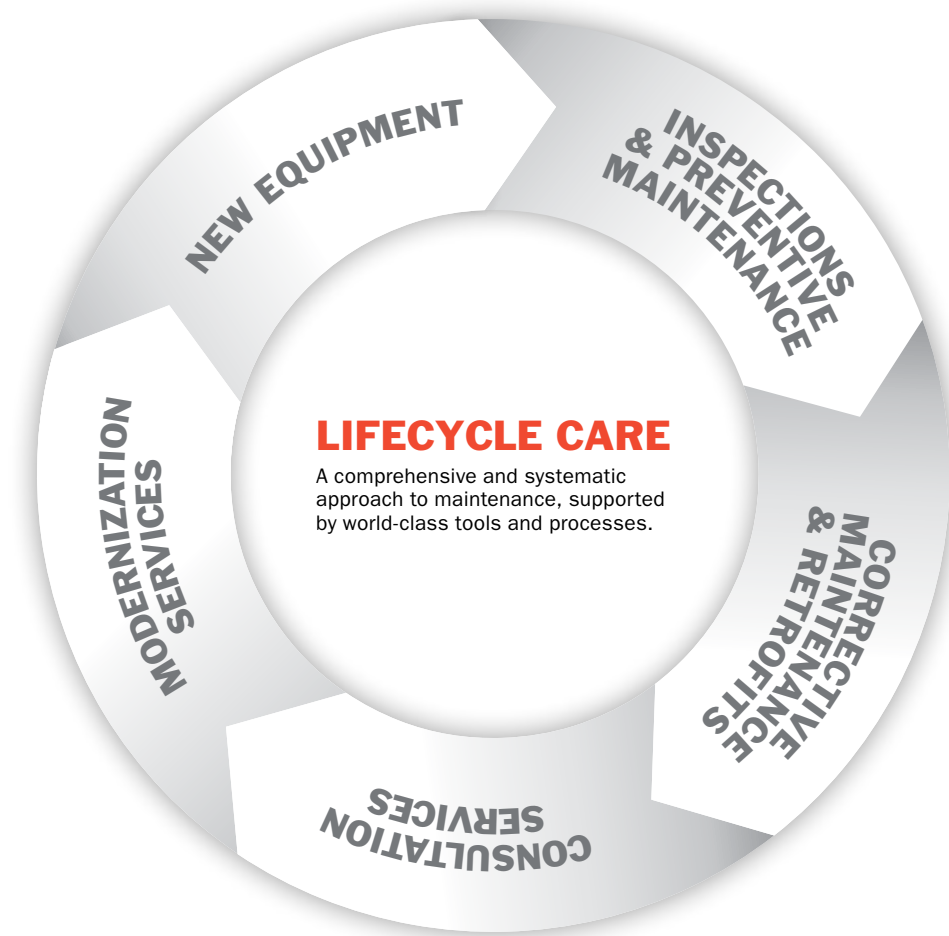


Konecranes services more than 740,000 pieces of lifting equipment.



A worker in an orange safety suit and white hard hat is working on a crane mechanism. The worker is wearing a white hard hat with a logo, safety glasses, and an orange high-visibility jacket with reflective stripes. He is also wearing a black safety harness with "MSA" and "SAFETY" labels. He is standing on a metal platform and is adjusting a component of the crane's hoist system. The background shows a yellow wall and various mechanical parts of the crane.

**SERVICE FOR
THE LIFE OF
EVERY CRANE**



KONECRANES LIFECYCLE CARE

Konecranes Lifecycle Care is a systematic, consistent, comprehensive and professional approach to maintenance, supported by world-class tools and processes.

Highest lifecycle value results from maximizing the productivity of uptime in addition to minimizing the cost of downtime. We believe merely keeping your cranes running is not sufficient. Our aim is to help you achieve the highest level of productivity during every shift. We aim to deliver measurable improvements in safety and productivity that can be reported and reviewed, demonstrating a return on investment to you.

Our crane experts apply a systematic Risk and Recommendation Method of evaluation and a consultative planning and review process to drive continuous improvement in safety and productivity.

Inspections and preventive maintenance identify risks and improvement opportunities, and support compliance with regulations and standards.

Corrective maintenance and retrofits address safety and productivity issues and capitalize on improvement opportunities.

Consultation services guide decision making and uncover critical issues, using advanced technology and trained specialists when a deeper look at a crane and its components is required.

Modernization services prolong the economic service life of equipment and achieve increased capacity, speed, duty or load control.

New equipment provides new or replacement equipment.





Our customer portal, yourKONECRANES.com, gives you quick and easy access to your crane maintenance information. Usage data from TRUCONNECT and maintenance data and asset details are linked, giving you a transparent view of events and activities over any selected time interval. Aggregated data can be viewed, analyzed and shared quickly, for a single asset or an entire fleet. Insights can be drawn by observing anomalies, patterns and trends, helping you make informed, fact-based, maintenance decisions.



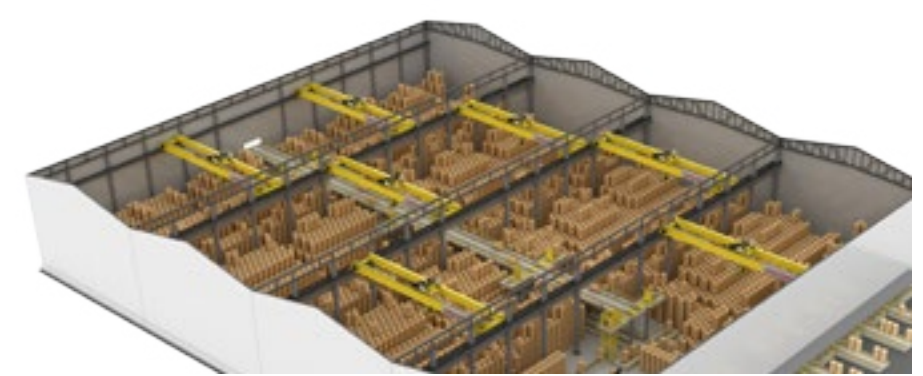
yourKONECRANES.com



Konecranes Remote Data Center



Diagnostic Unit



PLAN FUTURE ACTIONS WITH BETTER INFORMATION

TRUCONNECT® is a suite of remote service products and applications to support maintenance operations and drive improvements in safety and productivity. It is an important building block in delivering Lifecycle Care in Real Time.

IMPROVED SAFETY AND OPTIMIZED CRANE MAINTENANCE

TRUCONNECT Remote Monitoring uses sensors to collect data – such as running time, motor starts, work cycles and emergency stops. Brake and inverter monitoring is also available. This data and other crane usage information is visible on the yourKONECRANES.com customer portal.

Remote Monitoring provides asset usage and operating information that is used to assess crane condition. Notification of hoist overloads, emergency stops and over-temperature occurrences are sent through text or email alerts, allowing for prompt response.

Remote Monitoring also gives you an estimation of the remaining design working period (DWP) of selected components, such as hoist brakes and structures.

GLOBAL NETWORK OF CRANE KNOW-HOW

TRUCONNECT Remote Support provides 24/7 access to a global network of crane experts and specialists, offering problem solving and troubleshooting to help reduce unplanned downtime. In controlled circumstances, two-way communication with the machines and their operators can be established in order to expedite corrective action. Remote Support is ideally suited for extremely remote locations.



Konecranes lifting equipment can help you save hours each day in roll change time.



THE CRANES



SMART FEATURES

We have put decades of experience in technology and industry into our Smart Features, which increase safety and productivity of your business. Our cranes and software based Smart Features are designed to improve safety and reduce load cycle times by giving you better control over material handling in your production process. You can buy Smart Features already installed on new cranes, and you can also add them to your existing cranes. Choose the ones you want, or ask us to recommend a feature package that fits your specific production process. We invite you to explore how Smart Features can benefit your business.



Hook Centering is designed to eliminate side pull during lifting by positioning the bridge and trolley automatically directly over the load. This feature means less wear and tear on your crane's components, faster load cycle times and ease of operation.



Load Floating keeps the load in position after the hoisting movement stops, so the brake is applied less frequently and it wears less than normally. Load Floating allows a faster and smoother restart of the hoisting movement and better control of the load.



Sway Control takes the crane operator's speed command at the controls and brings the load to the required speed while preventing sway caused by acceleration and deceleration. This quite indispensable Smart Feature ensures more precise load positioning and reduces load cycle times.



Shock Load Prevention ensures smooth load pick-up. The hoist drive monitors the load. If it is picked up roughly, the hoisting speed is automatically reduced until the load is in the air. This prevents shocks to the load and shocks to the crane, extending the lifetime of the crane's steel structure and mechanical parts.



Slack Rope Prevention is an important safety and productivity feature when lifting devices such as lifting beams are used. When the load is lowered, the hoist drive detects when it touches the floor and stops the movement. The hoist ropes do not slacken. The ropes do not slip out of the hook block. The lifting device does not fall over.



Working Limits can be thought of as temporary "virtual walls" at which the crane stops automatically. Working from the controls, the crane operator sets a limit on trolley, bridge or hoist motions, thus creating a virtual wall. Several Working Limits can be defined according to the task at hand – protecting a temporary walkway or a truck to be loaded, for example. This Smart Feature protects goods, vehicles, etc. that are temporarily in the crane's working area.



Protected Areas are no-go areas which the crane operator cannot override or adjust. Up to 16 rectangular protected areas can be defined, allowing you to protect e.g. valuable production machinery or busy working areas from possible driver error. This Smart Feature increases safety and protects infrastructure.



Extended Speed Range allows higher lifting and lowering speeds when light loads are handled. When the load is less than 20% of the maximum rated load, for example, the hoist can be driven up to twice the maximum rated speed. This Smart Feature significantly reduces load cycle and waiting times and therefore improves efficiency.



Target Positioning allows work cycles to be carried out using only two buttons on the radio controller. Up to 120 target positions and eight home positions can be defined. The operator selects the load's target address and presses the "target positioning" button. As long as the button is pressed, the crane drives itself towards the selected target position. The hoist can automatically raise the load to a defined travel height. When the load reaches the target position, the hoist automatically lowers the load to a pre-defined height. This Smart Feature increases safety and significantly reduces work cycle times.



End Positioning speeds up the set-down phase of the load handling cycle. It is especially useful in work cycles involving stationary machines or structures where the operator must repetitively position loads in exactly the same places. Up to 16 "end positions" can be defined by the operator. When the load is moved into a positioning window around the target and the "end positioning" button is pressed, the crane moves the load to the center of the window. Then the operator takes over manually and lowers the load. This Smart Feature increases safety and reduces work cycle times.



With **Soft Touchdown**, the hook is slowed down and stopped automatically at a predefined elevation. This means a reduced risk of collision and damage for both the load and the machinery.

Hoisting Synchronization supervises and controls both hooks, when lifting a load simultaneously with two hooks, so that they run at exactly the same speed, even where there is imbalanced loading between the hoists. This Smart Feature increases both safety and productivity.



A GOOD INVESTMENT FOR YOUR WOODYARD

The use of a Konecranes woodyard crane generally results in log handling costs significantly lower than those of rubber-tired mobile equipment. As a capital investment, it can pay for itself in a short time. With Konecranes' range of three log-handling crane designs, there is a perfect solution most of production sizes.

THREE CRANE DESIGNS TO FIT YOUR PROCESS

STRAIGHT TRACK



Straight-Track Woodyard Cranes

- Most popular and optimal for future runway expansions and expanding storage space
- Provides optimum truck traffic flow and optimized storage

ROTATING



Rotating Portal Woodyard Cranes

- Often fits where straight-track cranes will not fit.
- Provides storage inside and outside the rail



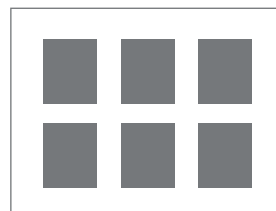
Log Boom Woodyard Cranes

- Still provides fast truck unloading with an even more compact footprint

STORAGE AREA GAINS

A straight-track woodyard crane typically occupies about 4% of the yard space - as compared to the 25% occupied by a storage yard setup for rubber-tired equipment. For a typical 60,000 sq. ft. woodyard, that's 15,000 sq. ft. lost to industrial roadways and other considerations for constant vehicle traffic. A Konecranes woodyard crane could recover over 12,000 sq. ft. of that for usable log storage, not to mention stacking up to 75 ft. vertically to greatly increase the cubic capacity.

PERCENTAGE STORAGE SPACE



Conventional yard layout with rubber-tired equipment



Portal crane yard layout

WE KNOW CRANES

Konecranes is an industry leader in research and development of crane technology, providing state-of-the-art offerings designed to help your lifting operations run as safely and efficiently as possible. We represent a material-handling expertise that is unparalleled in the Woodyard crane market, with features like:

- Diagnostic (PLC) systems for ease of maintenance
- High-efficiency AC control systems and Smart Features like collision avoidance and zone speed control
- Semi-automation and target positioning technology
- Inventory Management System with accurate load tracking
- Patented reeving system designed to minimize sway and provide accurate load movements

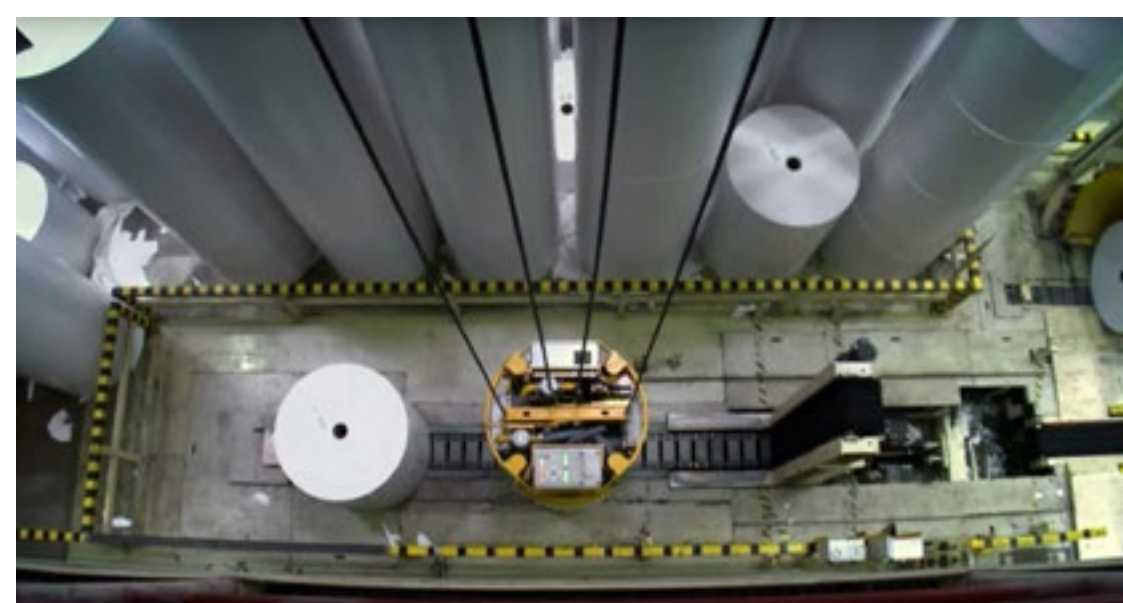


VACUUM LIFTER FOR PAPER ROLLS

Konecranes Vacuum Lifter Unit (VLU) delivers reliable automated operation through the combined use of software and hardware. The Vacuum Lifter Unit can adapt to all fine paper and paperboard grades.

Vacuum lifter handling offers unbeatable advantages for storing paper and paperboard rolls. Vertically stacked storage offers excellent utilization of floor space and building volume. The gentle gripping action does not mark or deform paper rolls, reducing waste and resulting in better runnability of the rolls.

The Konecranes vacuum lifter is designed for safer, fully automatic paper roll handling, and it includes many patented functions that increase speed of handling.



**WATCH
THE METSÄ BOARD
ÄÄNEKOSKI VIDEO**

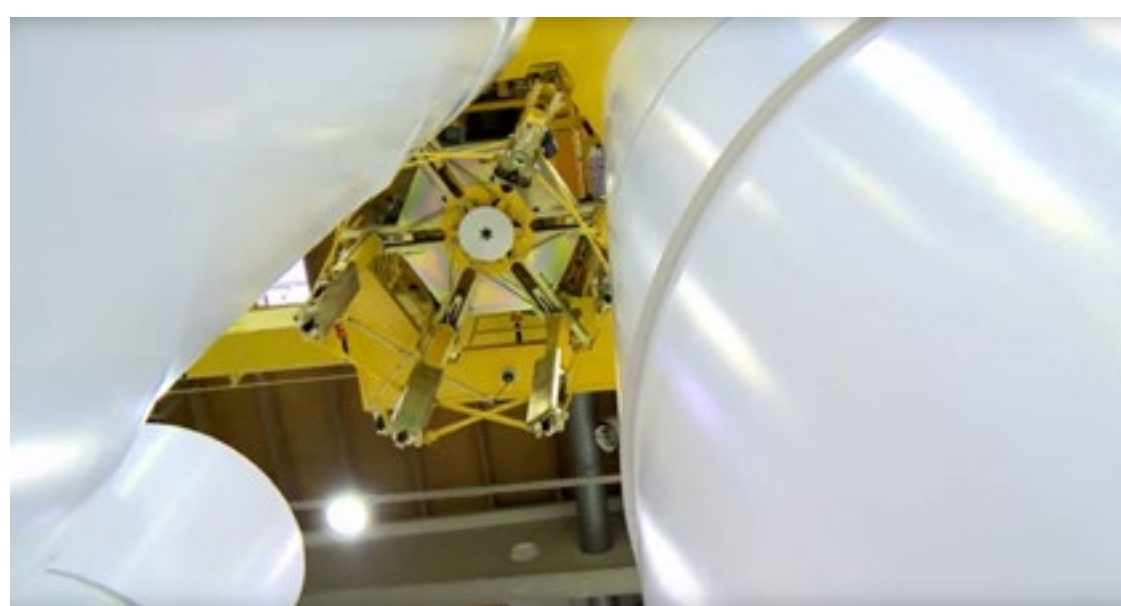


MECHANICAL GRIPPER FOR PAPER ROLLS

Designed for automatic, safer and gentle handling, the mechanical gripper is a supremely reliable tool for moving different paper grades and roll sizes. It is able to handle both wrapped and unwrapped rolls, large tissue paper parent rolls and hard papers.

Gentle grip with six evenly distributed friction pads significantly reduces deformation of rolls. The fully mechanical, patented construction is lightweight and compact, and can make it possible to utilize storage space effectively.

As a failsafe in case of a power outage, the system has no time limit for holding the rolls. The mechanism stays tight around the rolls without electricity or any external force. Position measuring and anti-collision sensors help to stop movement if a risk is detected. Wireless data transmission with hardwired interlocking reduce the need for data cables.



WATCH THE MECHANICAL GRIPPER, METSÄ BOARD ÄÄNEKOSKI VIDEO



LIFT TRUCKS

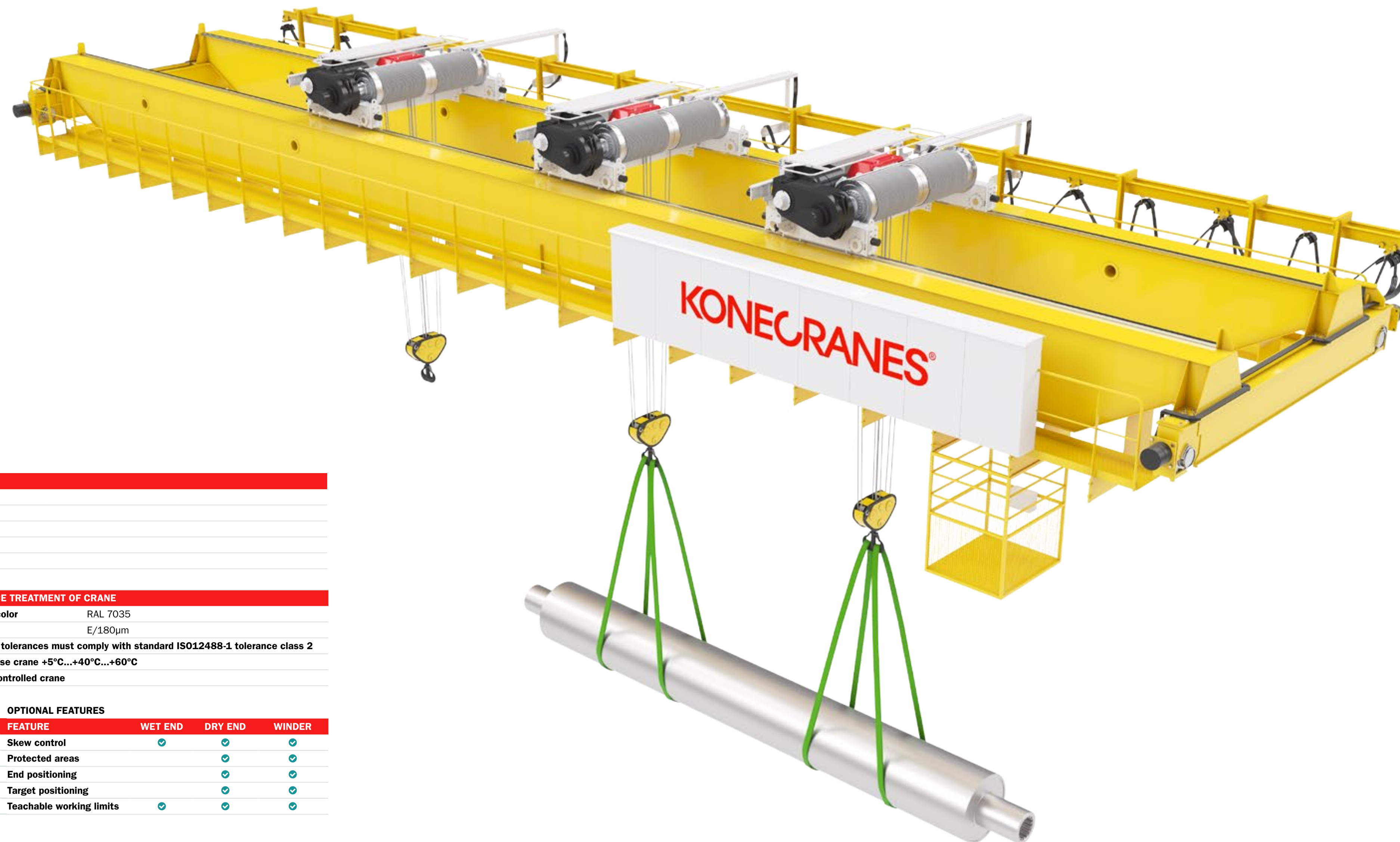
Konecranes has a relationship with the pulp, paper and wood industries that reaches back to the 1920s. Our offering covers lifting equipment and service for most phases of production. Lift trucks are a very strong part of our offering for these industries.

What kind of wood or paper product do you need to handle? We offer a whole range of range of lift trucks, fork and carriage combinations, fork and shaft systems, paper bale clamps, paper roll clamps, and attachments based on a quick-change system. We'll provide the right lift truck and attachments for the work you need to do.

Working closely with leading pulp and paper companies, we have developed a unique system to improve the handling of paper rolls. A programmable microprocessor is at the heart of the system. Sensors collect key operating information, and the information is sent to the display in the cabin. The system reduces damage to the paper rolls with functions such as automatic opening of the paper clamp attachment when the roll touches the ground, and automatic prevention of lift truck movement until the rolls are off the ground.



WET END CRANE



HOIST DATA

Crane capacity	15...100 t + 15...100 t (+aux. 2 x 5 t)
Lifting height	10-25 m
Hoisting speed	0-4-8 m/min
Traversing speed	0-20 m/min
Hoist group	M4-M5-M6

TECHNICAL DATA

Span	20-40 m according to PM wire width
Traveling speed	0-50 m/min stepless
Crane group	A6
Crane drive group	FEM M5 (2m)

SURFACE TREATMENT OF CRANE

Bridge color	RAL 7035
Paint	E/180µm
Runway tolerances must comply with standard ISO12488-1 tolerance class 2	
Indoor use crane +5°C...+40°C...+60°C	
Radio controlled crane	

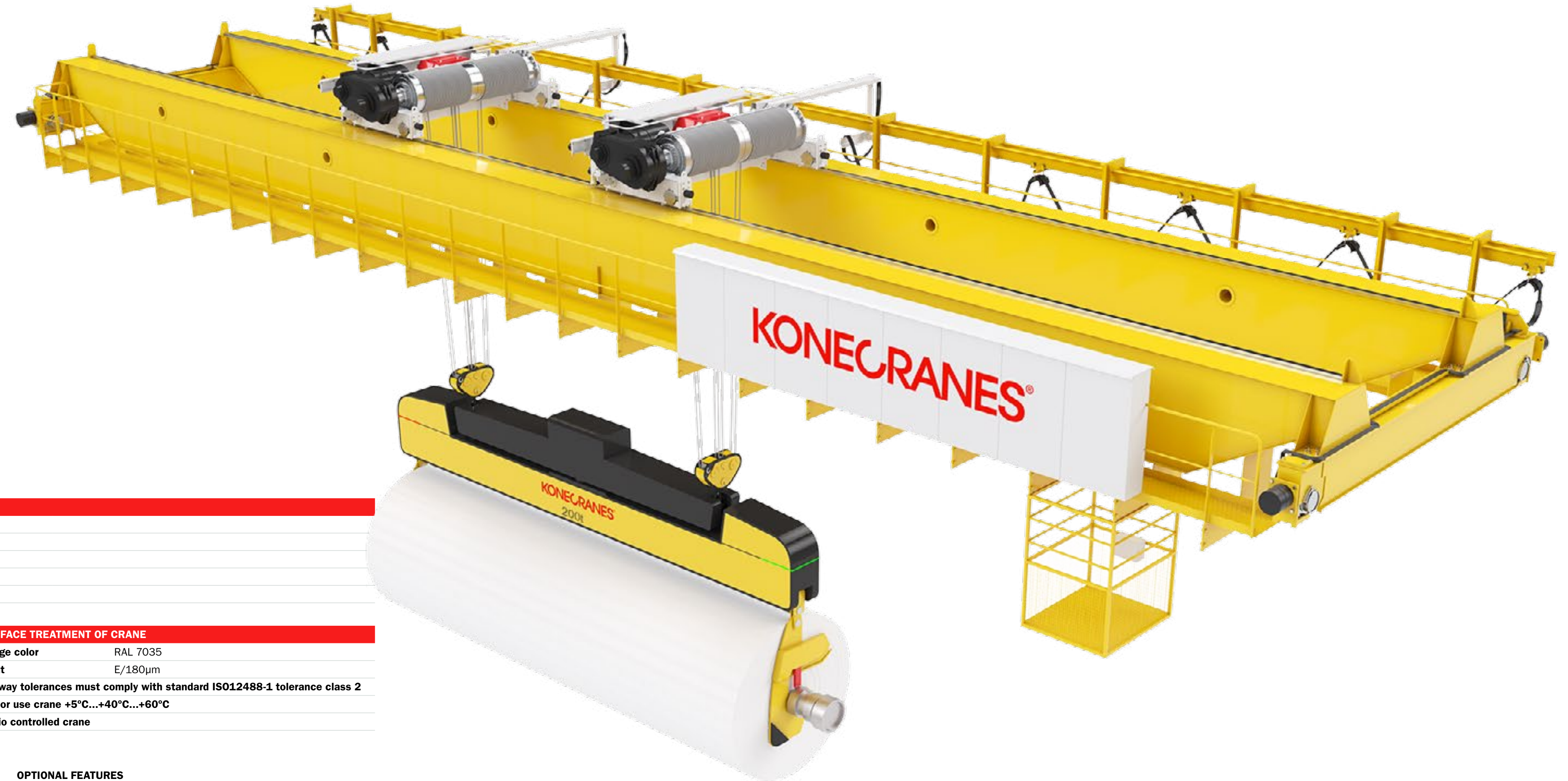
STANDARD FEATURES

FEATURE	WET END	DRY END	WINDER
Sway control	✓	✓	✓
Hoisting synchronization	✓	✓	✓
Slack rope prevention		✓	✓
Soft touch down		✓	✓
TRUCONNECT connection	✓	✓	✓

OPTIONAL FEATURES

FEATURE	WET END	DRY END	WINDER
Skew control	✓	✓	✓
Protected areas		✓	✓
End positioning		✓	✓
Target positioning		✓	✓
Teachable working limits	✓	✓	✓

DRY END CRANE



HOIST DATA

Load	15...100 t + 15...100 t (+ aux. 2 x 5 t)
Lifting height	10-25 m
Hoisting speed	0-4-12
Traversing speed	0-20
Hoist group	M5-M6

TECHNICAL DATA

Span	20-40 m according to PM wire width
Traveling speed	0-50 m/min stepless
Crane group	A6
Crane drive group	FEM M5 (2m)

SURFACE TREATMENT OF CRANE

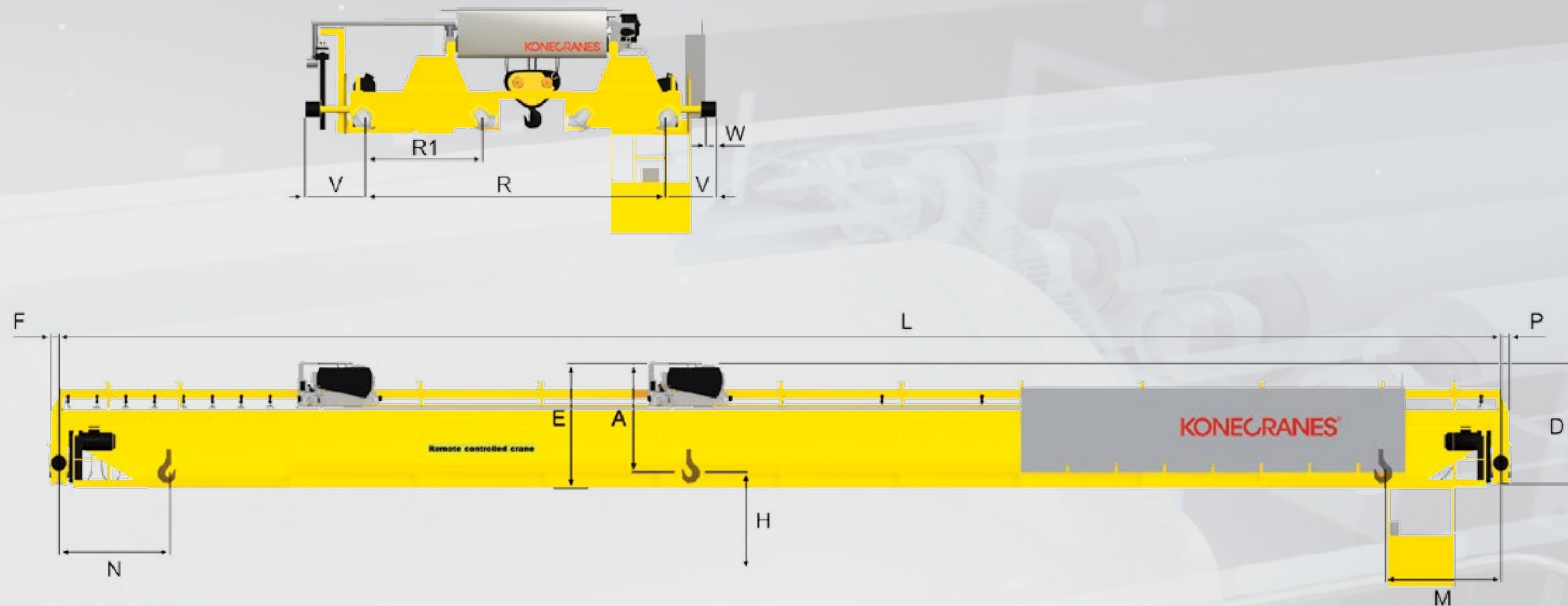
Bridge color	RAL 7035
Paint	E/180µm
Runway tolerances must comply with standard ISO12488-1 tolerance class 2	
Indoor use crane +5°C...+40°C...+60°C	
Radio controlled crane	

STANDARD FEATURES

FEATURE	DRY END
Sway control	✓
Hoisting synchronization	✓
Slack rope prevention	✓
Soft touch down	✓
TRUCONNECT connection	✓

OPTIONAL FEATURES

FEATURE	DRY END
Skew control	✓
Protected areas	✓
End positioning	✓
Target positioning	✓
Teachable working limits	✓



DRY END CRANE DIMENSIONS

BASIC DEFAULTS FOR DIMENSIONAL CALCULATIONS

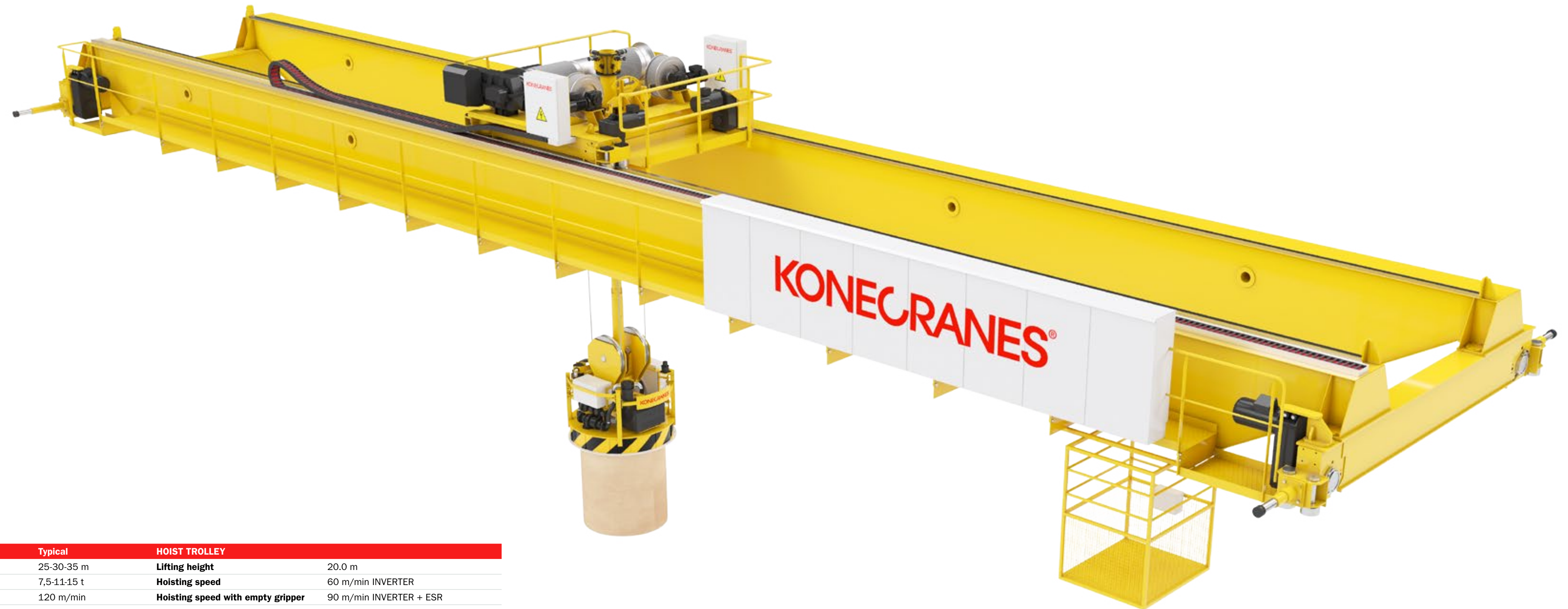
- Bridge traveling speed for all cranes is 40 m/min
- Trolley traversing speed for all cranes is 25 m/min
- Crane group classification is A5/M5
- Crane classification M5/M6 (to be defined according to process data)
- Minimum wheel base ratio for all cranes is 0.14
- Steel structure material is S235
- Maximum allowed vertical deflection with load and trolley is 1/800

EXAMPLES OF DRY END CRANE DIMENSIONS

PAPER MACHINE WIRE WIDTH EXAMPLES	LOAD	L m	A mm	D mm	E mm	M mm	N mm	V mm	W mm	P mm	H m	R mm	R1 mm	MAX. STATIC WHEEL LOAD kN	TOTAL WEIGHT OF CRANE t	Rail DIN536
3	12.5 t	15	1970	2240	1680	750	1330	380	550	150	30	5000	1600	120	13	A55
		25		2250	1930	750	1330	340	560	155		5450	70	22	A55	
		35		2520	2280	750	1730	340	630	155		5580	100	39	A55	
4	2*12.5 t	15	1850	2360	1800	800	1270	380	630	150	20	5000	1800	180	15	A55
		25		2520	2280	800	1270	340	540	155		5500	110	24	A55	
		35		2900	2530	800	1770	420	630	170		5420	130	41	A55	
6	2*25 t	15	2060	2320	1840	870	1210	380	690	165	15 / 20	4860	1300	160	20	A75
		25		2930	2550	870	1210	380	690	165		5100	1300	200	31	A75
		35		3520	2870	870	1600	510	530	210		5540	1600	230	52	A75
7	2*40 t	15	2380	2640	2090	1050	1450	420	600	175	15 / 20	5050	1600	250	26	A75
		25		3350	2680	1050	1450	550	510	200		5250	1600	280	44	A75
		35		3580	2980	1050	1450	510	460	210		5850	2000	320	64	A75
9	2*63 t	15	2900	2550	2640	1050	1460	570	490	225	19	6100	1800	370	40	A100
		25		3380	3400	1050	1460	620	440	225		6100	1800	430	60	A100
		35		3650	3645	1050	1460	690	300	280		6750	2200	470	97	A100
10	2*100 t	15	3430	3450	3440	1170	1610	680	210	280	18	6450	2200	600	59	A120
		25		3950	3920	1170	1610	830	0	335		6900	2500	640	91	A120
		35		4240	4190	1170	1610	830	50	335		6950	2500	690	126	A120

PAPER ROLL STORAGE CRANE

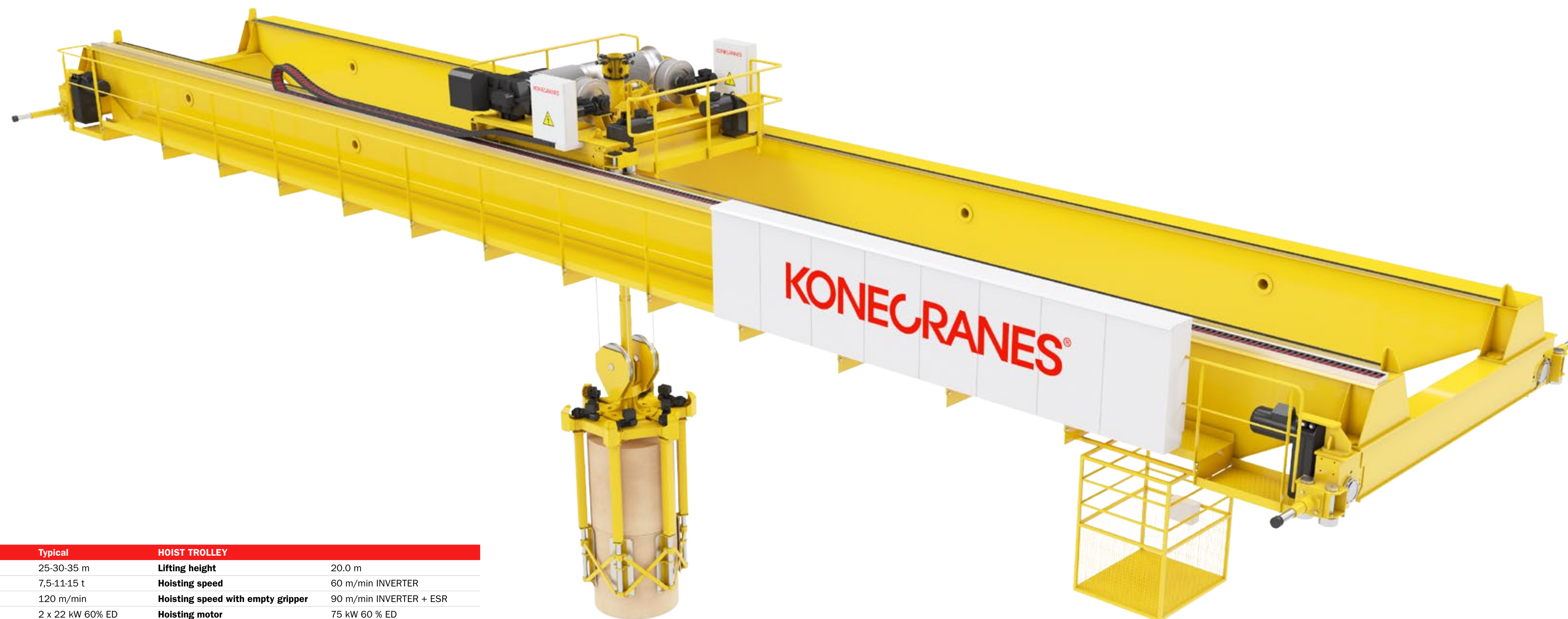
Vacuum Lifter



TECHNICAL DATA		HOIST TROLLEY	
Span	Typical 25-30-35 m	Lifting height	20.0 m
Capacity of bridge	7,5-11-15 t	Hoisting speed	60 m/min INVERTER
Bridge traveling speed	120 m/min	Hoisting speed with empty gripper	90 m/min INVERTER + ESR
Bridge traveling motors	2 x 22 kW 60% ED	Hoisting motor	75 kW 60 % ED
Class of traveling machinery	FEM M8	Trolley traversing speed	60 m/min INVERTER
Power supply	3AC 400V 50Hz	Trolley traversing motors	2 x 3.6 kW 60% ED
Control voltage	230V	Class of traversing machinery	EN M8
Ambient temperature	+5°C...+40°C	Weight of trolley	7-8-9 ton
Weight without trolley	33 t Acc. to span	Weight of lifting device	2-3 t

PAPER ROLL STORAGE CRANE

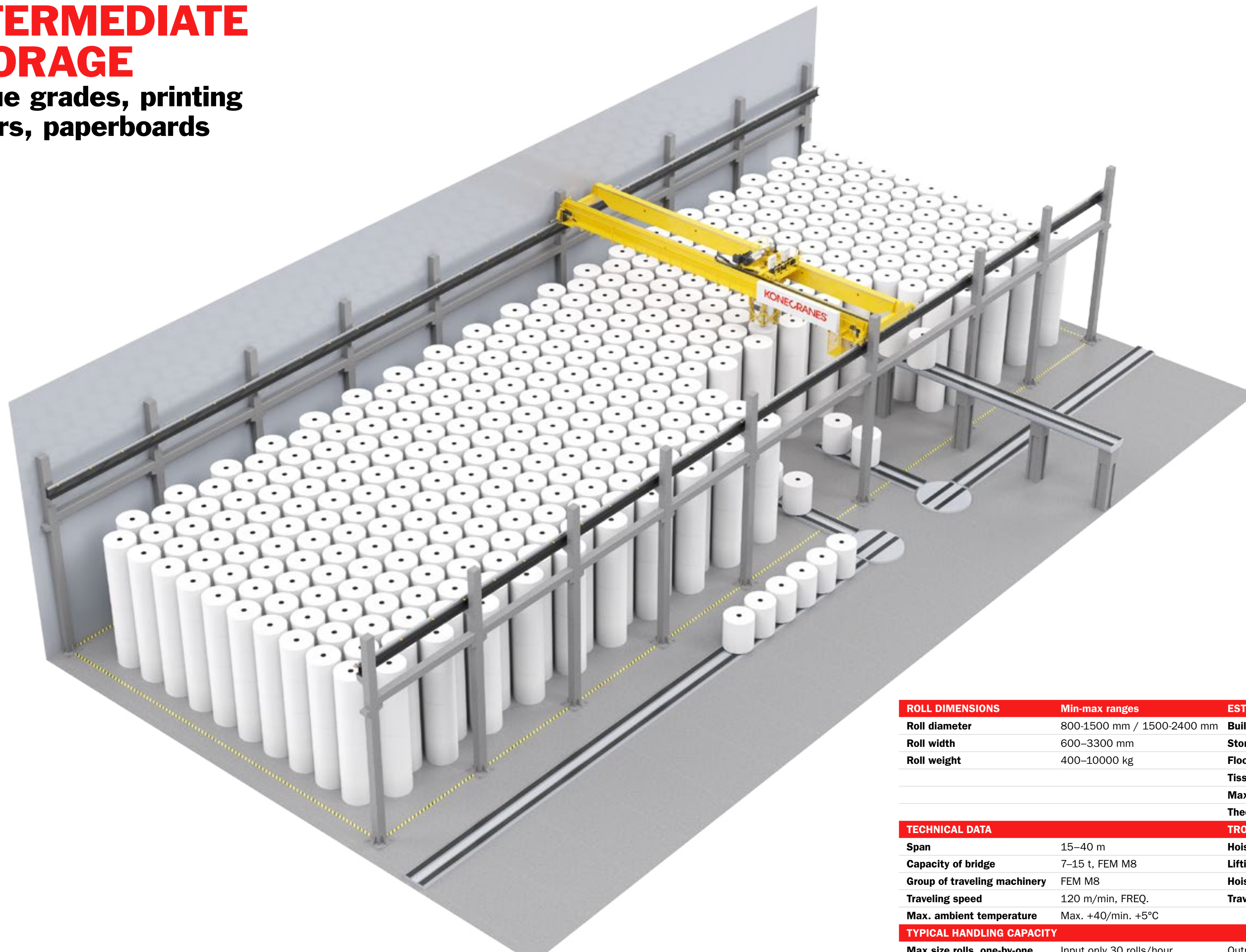
Roll gripper (mechanical)



TECHNICAL DATA		HOIST TROLLEY	
	Typical		
Span	25-30-35 m	Lifting height	20.0 m
Capacity of bridge	7,5-11-15 t	Hoisting speed	60 m/min INVERTER
Bridge traveling speed	120 m/min	Hoisting speed with empty gripper	90 m/min INVERTER + ESR
Bridge traveling motors	2 x 22 kW 60% ED	Hoisting motor	75 kW 60 % ED
Class of traveling machinery	FEM M8	Trolley traversing speed	60 m/min INVERTER
Power supply	3AC 400V 50Hz	Trolley traversing motors	2 x 3.6 kW 60% ED
Control voltage	230V	Class of traversing machinery	EN M8
Ambient temperature	+5°C...+40°C	Weight of trolley	7-8-9 ton
Weight without trolley	33 t Acc. to span	Weight of lifting device	2-3 t

INTERMEDIATE STORAGE

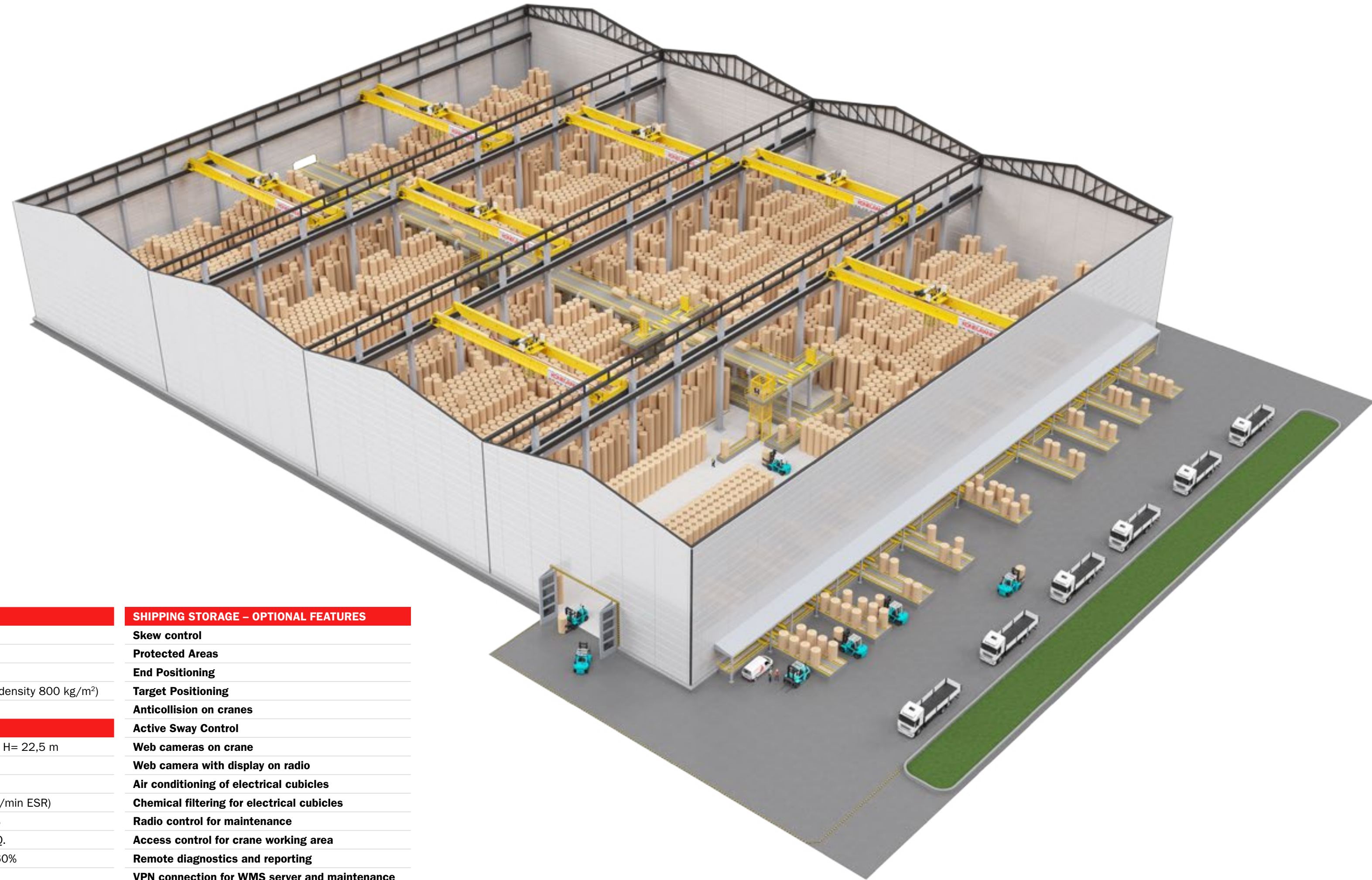
Tissue grades, printing papers, paperboards



ROLL DIMENSIONS		ESTIMATED WAREHOUSE CAPACITY		INTERMEDIATE STORAGE – OPTIONAL FEATURES	
Roll diameter	800-1500 mm / 1500-2400 mm	Building size	33 x 91 m h=17 m	Skew control	
Roll width	600–3300 mm	Storage area capacity	7200 ton	Protected Areas	
Roll weight	400–10000 kg	Floor loading	29 kN/m ²	Target Positioning	
		Tissue density	300 kg/m ³	Anticollision on cranes	
		Max. tower height	15000 mm	Active Sway Control	
		Theoretical capacity	28000 ton (density 900 kg/m ³)	Web cameras on crane	
TECHNICAL DATA		TROLLEY		Air conditioning of electrical cubicles	
Span	15–40 m	Hoisting capacity	7–15 t, FEM M8	Chemical filtering for electrical cubicles	
Capacity of bridge	7–15 t, FEM M8	Lifting height	19 m	Radio control for maintenance	
Group of traveling machinery	FEM M8	Hoisting speed	60 m/min (30 m/min ESR)	Access control for crane working area	
Traveling speed	120 m/min, FREQ.	Traversing speed	60 m/min, FREQ.	Conveyor interface	
Max. ambient temperature	Max. +40/min. +5°C			Conveyor control	
TYPICAL HANDLING CAPACITY					
Max size rolls, one-by-one	Input only 30 rolls/hour	Output only 28 rolls/hour	Combined IN 15 r/h + OUT 15 r/h	Roll end straightness measuring	
				Secondary power supply for vacuum lifter (when applicable)	
				Global technical support via Konecranes service	
				Remote diagnostics and reporting	
				VPN connection for WMS server	

SHIPPING STORAGE I

80,000 ton



ROLL DIMENSIONS

Roll diameter	1000–1500 mm
Roll width	850–3200 mm
Roll weight	4600 kg
Roll weight, avg.	1000 kg
Floor loading	74 kN/m ²

ESTIMATED WAREHOUSE CAPACITY

Storage area capacity	4 x 963 stacks
Max. roll diameter	1500 mm
Max. tower height	14000 mm
Theoretical capacity	4 x 19060 ton (density 800 kg/m ²)

TECHNICAL DATA

Span	33.5 m
Capacity of bridge	7.7 t, FEM M8
Group of travelling machinery	FEM M8
Traveling speed	120 m/min, FREQ.
Traveling motor	2 x 22 kW ED 60%
Power supply	380 V, 50 Hz
Bridge weight	39 t
Max. ambient temperature	Max. +40°C

TROLLEY

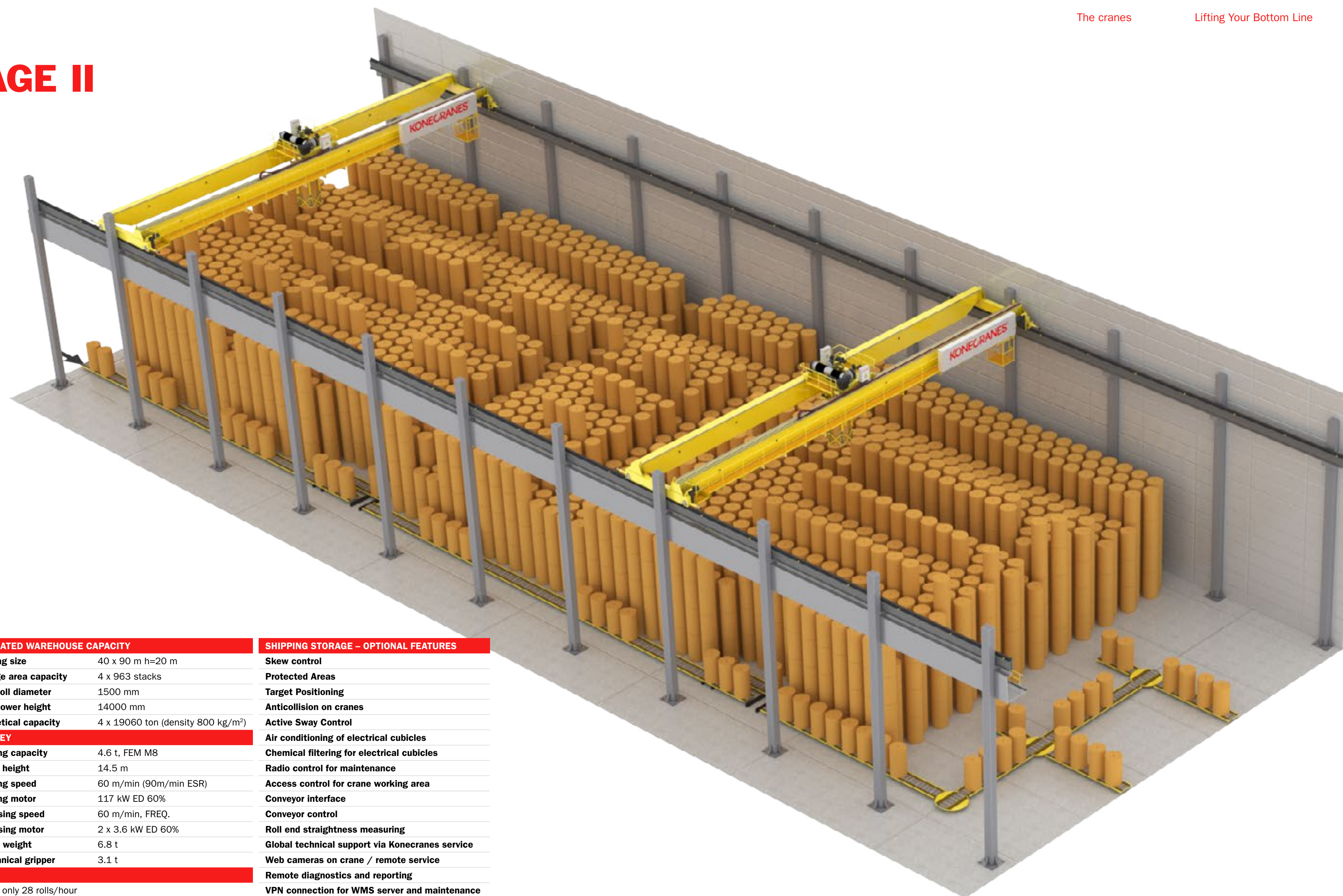
Building size	4x35m x 120 m H= 22,5 m
Hoisting capacity	4.6 t, FEM M8
Lifting height	14.5 m
Hoisting speed	60 m/min (90m/min ESR)
Hoisting motor	117 kW ED 60%
Traversing speed	60 m/min, FREQ.
Traversing motor	2 x 3.6 kW ED 60%
Trolley weight	6.8 t
Mechanical gripper	3.1 t

SHIPPING STORAGE – OPTIONAL FEATURES

Skew control
Protected Areas
End Positioning
Target Positioning
Anticollision on cranes
Active Sway Control
Web cameras on crane
Web camera with display on radio
Air conditioning of electrical cubicles
Chemical filtering for electrical cubicles
Radio control for maintenance
Access control for crane working area
Remote diagnostics and reporting
VPN connection for WMS server and maintenance
Conveyor interface
Conveyor control
Roll end straightness measuring
Secondary power supply for vacuum lifter
Walkway lights on crane

SHIPPING STORAGE II

30,000 ton



ROLL DIMENSIONS		ESTIMATED WAREHOUSE CAPACITY		SHIPPING STORAGE – OPTIONAL FEATURES	
Roll diameter	Typical 1200–1500 mm	Building size	40 x 90 m h=20 m	Skew control	
Roll weight	max 6000 kg	Storage area capacity	4 x 963 stacks	Protected Areas	
Floor loading (typical)	10+0 kN/m ²	Max. roll diameter	1500 mm	Target Positioning	
		Max. tower height	14000 mm	Anticollision on cranes	
		Theoretical capacity	4 x 19060 ton (density 800 kg/m ²)	Active Sway Control	
TECHNICAL DATA		TROLLEY		Air conditioning of electrical cubicles	
Span	28 m	Hoisting capacity	4.6 t, FEM M8	Chemical filtering for electrical cubicles	
Capacity of bridge	9 t, FEM M8	Lifting height	14.5 m	Radio control for maintenance	
Group of traveling machinery	FEM M8	Hoisting speed	60 m/min (90m/min ESR)	Access control for crane working area	
Traveling speed	120 m/min, FREQ.	Hoisting motor	117 kW ED 60%	Conveyor interface	
Traveling motor	2 x 22 kW	Traversing speed	60 m/min, FREQ.	Conveyor control	
Max. ambient temperature	Max. +40/min. +5C	Traversing motor	2 x 3.6 kW ED 60%	Roll end straightness measuring	
		Trolley weight	6.8 t	Global technical support via Konecranes service	
		Mechanical gripper	3.1 t	Web cameras on crane / remote service	
TYPICAL HANDLING CAPACITY (cranes)					
Max size rolls	input only 28 rolls/hour	output only 28 rolls/hour		Remote diagnostics and reporting	
Set handling (e.g. P=1500, B=800 mm rolls) in + out	input only 100 rolls/hour	output only 100 rolls/hour	combined 200 rolls/hours	VPN connection for WMS server and maintenance	

STRAIGHT-TRACK PORTAL WOODYARD CRANE



TROLLEY DATA	T-1	T-2	T-3
CMAA Class	E	F	F
Capacity lift (under grapple) (t)	13	27	36
Grapple size (sqm)	2	6	6
Hoist full load speed (m/min)	24	15	42
Trolley speed (m/min)	48	78	150

CRANE DATA	S-1	S-2	S-3	S-4	S-5
Structural design standard	EN 13001-1	EN 13001-1	EN 13001-1	EN 13001-1	EN 13001-1
Machinery CMAA class	E	F	F	F	F
Span (m)	31	35	44	50	59
Capacity lift (ton)	14	27	27	36	36
Lift under grapple (max available, m)	14	17	21	21	21
Standard trolley pairing	T-1	T-2	T-2	T-3	T-3
Gantry Speed (m/min)	180	102	102	150	150

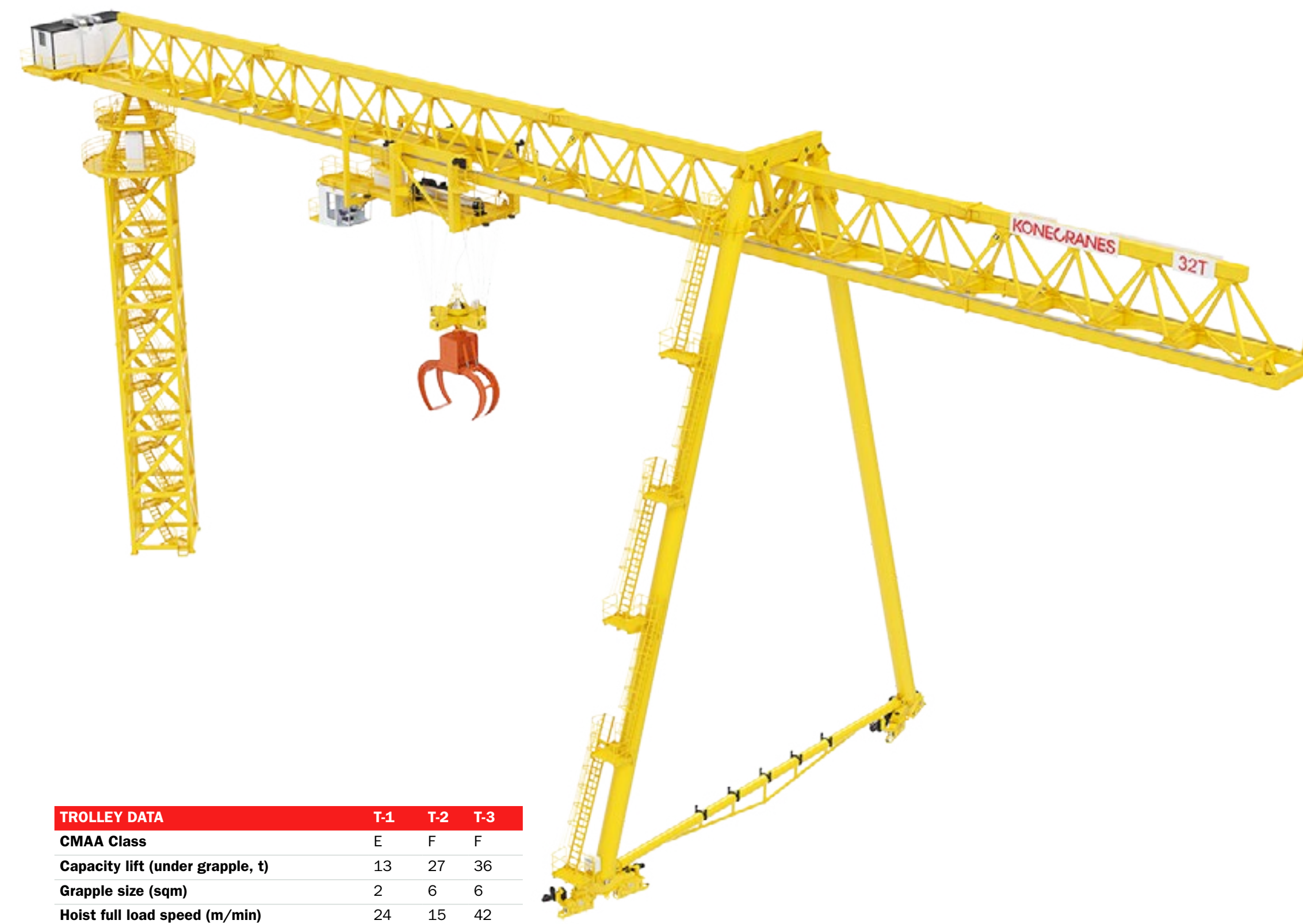
LOG BOOM WOODYARD CRANE



CRANE DATA	LB-1	LB-2	LB-3
Structural design standard	EN 13001-1	EN 13001-1	EN 13001-1
Machinery CMAA class	F	F	F
Maximum outreach (m)	56	53	50
Minimum outreach (m)	34	30	27
Rail radius	27	24	21
Capacity (ton)	14	29	32
Lift under grapple (m)	20	20	20
Gantry Speed (m/min)	115	115	120

*Note: Log Boom design utilizes 45 m/min flying trolley design.

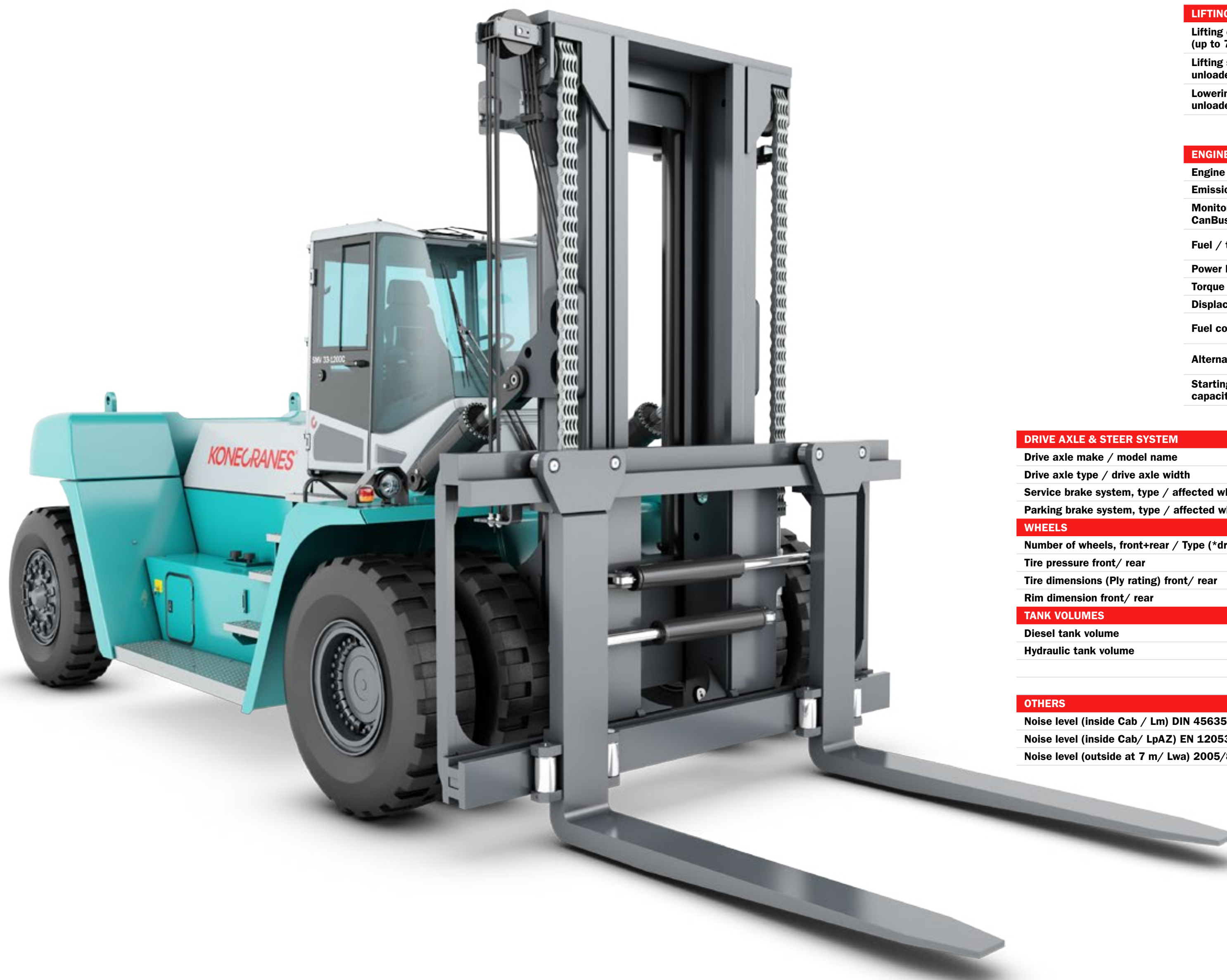
ROTATING PORTAL WOODYARD CRANE



TROLLEY DATA	T-1	T-2	T-3
CMAA Class	E	F	F
Capacity lift (under grapple, t)	13	27	36
Grapple size (sqm)	2	6	6
Hoist full load speed (m/min)	24	15	42
Trolley speed (m/min)	48	78	150

CRANE DATA	R-1	R-2	R-3
Structural design standard	EN 13001-1	EN 13001-1	EN 13001-1
Machinery CMAA class	F	F	F
Maximum outreach (m)	61	64	69
Minimum outreach (m)	14	14	14
Rail radius	43	49	49
Capacity (ton)	14	29	29
Lift under grapple (m)	14	17	21
Standard trolley pairing	T-1	T-2	T-3
Gantry Speed (m/min)	150	150	150

FORK LIFT TRUCK



LIFTING DATA			DRIVING DATA		
Lifting capacity / load center (up to 7 000 mm /standard mast)	kg / mm	16 000 / 1 200	Drive speed forward, unloaded/ at rated load	km/h	30 / 30
Lifting speed, unloaded/ at rated load	m/s	0,4 / 0,35	Drive speed reverse, unloaded/ at rated load	km/h	30 / 30
Lowering speed, unloaded/ at rated load	m/s	0,4 / 0,4	Incline (driving ability) at rated load at 0 km/h/at 2 km/h	%	28 / 22
			Towing (power ability) at rated load at 0 km/h/at 2 km/h	kN	107 / 85
ENGINE (ELECTRONIC CONTROLLED)			TRANSMISSION (ELECTRONIC CONTROLLED)		
Engine make/ model name	Volvo TAD-871-VE		Transmission make / model name	ZF 4WG-191-A	
Emission approval EU / US	Stage 4 / Tier 4f		Monitoring/ reverse protection / CanBus	yes / yes / yes	
Monitoring/ emission controlled/ CanBus	yes / yes / yes		Clutch, type	Torque converter	
Fuel / type of engine/ Intercooler	Diesel / 4-stroke / yes		Transmission type / type of shift gear	Softshift -Powershift / Automatic	
Power ISO 3046 / max speed	185 kW / 2 200 rpm		No. of gears, forward/reverse	3 / 3	
Torque ISO 3046 / at speed	1 160 Nm / 1 500 rpm		SERVICE WEIGHT / AXLE PRESSURE		
Displacement/ No. of cylinders/ type	7,7 L / 6 / inline		Service weight	21 800 kg	
Fuel consumption, normal driving	7 – 10 L/h		Axle pressure front, unloaded / at rated load	10 100 kg / 35 200 kg	
Alternator, type / power	AC / 3 080 W / 110 Amp		Axle pressure rear, unloaded / at rated load		
Starting battery, voltage / capacity)	2 x 12 V / 140 Ah				

DRIVE AXLE & STEER SYSTEM		STEER AXLE & STEER SYSTEM	
Drive axle make / model name	Kessler D81	Steer axle make / type	Konecranes / double acting single cylinder
Drive axle type / drive axle width	Differential + hub reduction / 2 500 mm	Steering system	Hydraulic servo assisted / power steering
Service brake system, type / affected wheels	Oil cooled w Disc Brakes / drive wheels Dry		
Parking brake system, type / affected wheels	disc brake / spring release/ drive wheels		
WHEELS		HYDRAULIC SYSTEM	
Number of wheels, front+rear / Type (*driven)	4*+2 / pneumatic	Hydraulic pump make/ model name	Parker & Hannifin/ P2-series
Tire pressure front/ rear	1,0 MPa / 1,0 MPa	Hydraulic system / pump type	Load sensing system / variable piston pump
Tire dimensions (Ply rating) front/ rear	12.00 x 20" (PR 20) / 12.00 x 20" (PR 20)	Power-on-demand/ Low energy	yes / yes
Rim dimension front/ rear	8.00 x 20" Inch / 8.00 x 20" Inch	Hydraulic oil pressure mast	23 MPa
TANK VOLUMES		LIFTING EQUIPMENT	
Diesel tank volume	243 L	Lift mast make / model	Konecranes / Duplex standard
Hydraulic tank volume	272 L	Lift mast type / design	2-stage / free visibility
		Fork carriage make/ model	Konecranes / integral double forks
		Fork carriage type	Hydraulic side shift & fork positioning
OTHERS		NORMS & STANDARDS	
Noise level (inside Cab / Lm) DIN 45635	66 dB(A)	Machine Directive in Europe 2006/42/EC	Yes
Noise level (inside Cab/ LpAZ) EN 12053	72 dB(A)	Stability of Industrial Trucks ISO 1074	Yes
Noise level (outside at 7 m/ Lwa) 2005/88/EC	109 dB(A)	Safety of Industrial Trucks EN ISO 3691-1	Yes

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Konecranes provides its customers with well-engineered, high-quality lifting equipment and proven results. Our equipment is designed to increase your safety and productivity as well as reduce your operating costs. Our deep understanding of the paper and forest industry allows us to offer you just the right solutions.

FOR RELIABILITY

Konecranes offers quick and responsive service thanks to our global service network of more than 600 locations. With our transparent, reliable and honest service we comply with our core value: “Don’t let the customer down.”

FOR FINANCE

Konecranes is on a mission to provide you with the lowest total cost of ownership of lifting equipment.

Konecranes is a world-leading group of Lifting Businesses™, serving a broad range of customers, including manufacturing and process industries, shipyards, ports and terminals. Konecranes provides productivity-enhancing lifting solutions as well as services for lifting equipment and machine tools of all makes.

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SMARTER HOW?

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